NEW BOOKLETS AND LEAFLETS

Direct Advertising of manufacturers received recently.

Armco

The American Rolling Mill Co., Middleton, Ohio, has issued a small booklet showing the development and service of Armco ingot iron. The process of manufacture from the ore to the finished product is throughly covered in this booklet.

Brunswick-Kroeschell

The Brunswick-Kroeschell Co., New Brunswick, N. J., and Chicago, Ill., has sent in a catalog containing a number of compressor units for ammonia cooling systems. Nine models of compressor units are presented.

Electro Kold

Electro Kold Corp., Spokane, Wash., has sent in a treatise offering a number of tested recipes for salads and frozen deserts. M. Edward Mathieu, Chef de Cuisine of the Davenport Hotel, Spokane, prepared the booklet.

Elkins

Catalogs from the Elkins Refrigerator and Fixture Co., Elkins, W. Va., illustrate their line of commercial refrigerators and store fixtures. Forty-eight pages are devoted to specifications and illustrations of all types of units. Twenty-five models are covered in this catalogue and detailed data regarding insulation is given along with the materials used.

General Electric

General Electric announces in a small folder a new model water cooler for offices, factories and public buildings. It is finished in snow white lacquer. The cabinet and unit are 44¾ inches high Dimensional diagrams illustrating the compactness of the unit show the water coil inside the cooler tank.

Gruendler

A catalog has been received from the Gustav J. Gruendler Co., St. Louis, Mo., announcing a new line of refrigerators for the grocer, delicatessen, florist, restaurant and hotel. Catalog No. 101 contains many illustrations and gives material specifications and Gruendler construction methods.

Herrick

Herrick refrigerators for hotels, restaurants, markets, florists, hospitals and similar applications are described and illustrated in the 48 page catalog No. 38 received from the Herrick Refrigerator Co., Waterloo, Iowa. Cut-a-way illustrations show the details of the construction. Two pages are devoted to illustrating the use of Herrick cases and coolers with electric refrigerating equipment.

Ice-O-Matic

William's Ice-O-Matic catalog gives a number of illustrations and specifications of the smaller type of refrigerators Many pleasing styles of cabinets and color combinations are illustrated in the twenty pages.

Iroquois

The Iroquois Electric Refrigerating Co., Philadelphia, Pa., sends in a booklet containing photographs and dimensions of ten Iroquois models. The internal capacity of the models range from 7.6 to 20.2 cubic feet. Several of the models are shown mounted on detachable bases.

Kelvinator

A folder from Kelvinator Corp., shows a complete line of cabinets for the home and apartment house. Several all porcelain models for larger apartments are introduced. Multiple cooling and condensing units for every requirement are also shown.

Thesco

Two large catalogs have been received from the C. Schmidt Co., Cincinnati, O., makers of Thesco refrigerators, illustrating their many models of commercial units. Construction and materials used are fully explained.

"PLEASE CHANGE MY ADDRESS"

Recent movements of Electric Refrigeration News subscribers as indicated by requests for changes in mailing addresses.

American Institute of Food Distribution, from 67 Wall St. to 369 Lexington Ave., New York, N. Y.

Apgar, R. H., from 79 William St., East Orange, N. J., to 165 Main St., Madison, N. J.

Baldwin, Herbert B., from 12 North St., Medford Hillside, Mass., to 35 Reed Ave., Everett, Mass.

Berndwar, Louis A., from 1008 Kenneth Road, to 1211 Moneado Drive, Glendale, Calif.

Bigelow, Russel M., from 418 Washington St., Newark, N. J., to c/o Merchant & Evans, Philadelphia, Pa.

Blackwell, Robert N., from 400 Woodbourne Ave., Louisville, Ky., to 407 Vincennes St., New Albany, Ind.

Blackwell, Wm. W., from 619 So. 2nd St. to P. O. Box 1017, Louisville, Ky.

Bond, J. K., from 931 30th St. to 44th and State Sts., Milwaukee, Wis.

Born, Jacob T., from Box 613, Wilmerding, Pa., to Box 64, Amity, Oregon.

Bradley, W. L., from 50 East 42nd St. to 420 Lexington Ave., New York, N. Y.

Brandon, B. A., from 492 Peachtree St. to Box 115, Atlanta, Ga.

Brysselbout, H. A., from 16611 Welland St. to 16784 Crudder St., Detroit, Mich.

Burrows, W. E., from 216 South Fourth St. to 410 Summit St., Rockford, Ill.

Collins, J. R., from 16 E. James St., to 200 Fairmont, River Rouge, Mich.

Walter, Corley G., from 1929 Peachtree Rd. to Imperial Hotel, Atlanta, Ga.

Crocker, A. G., from 5757 Trumbull Ave. to P. O. Box 852, Detroit, Mich.

Crow, Wayman, from 5571 Chamberlain Ave. to c/o Norge Corp., 400 Laclade Ave., St. Louis, Mo.

Dooley, J. J., from Domestic Refrigerator Co., 704 Paul Brown Bldg., to 5521 Meramec St., St. Louis, Mo.

Duffey, A. J., from 134 Eastlawn, Detroit, Mich., to c/o John W. Bailey Co., 69 N. Division Ave., Grand Rapids, Mich.

Easter, J. Blair, from Beaver Falls, Pa., to 618 Grant St., Pittsburgh, Pa.

Electric Refrigerator Co., from 1727 Chestnut St. to 1515 North Broad St., Philadelphia, Pa.

Ettinger, Hal, from 323 Guthrie St. to 327 Guthrie St., Louisville, Ky.

Fenton, F. S., Jr., from 504 The Biltmore, Seattle, Wash., to 879 Mission St., San Francisco, Calif.

Fitzgerald, R. B., from 610 Wyoming Ave., Scranton, Pa., to 955 Park Ave., Williamsport, Pa.

Flint, L. B., from 577 S. 5 East to 86 B St., Apt. 5, Salt Lake City, Utah.

Flynn, J. E., from 610 Electric Bldg., Omaha, Nebr., to 1004 Baltimore Ave., Kansas City, Mo.

Glueck & Co., from 53312-14 Broadway to 3312 Broadway, Kansas City, Mo.

Grover, Lewis E., from 1827 Tama, Boone, Iowa, to West Union, Iowa.

Gross, Gordon, from 885 Flatbush Ave. to 2620 Glenwood Rd., Brooklyn, N. Y.

Hamilton, W. W., from 4503 Magnolia to 1144 Montrose Ave., Chicago, Ill.

Harris, J. C., from 340 W. First St. to 1838 Malvern Ave., Dayton, Ohio.

Hawkins, Howard, from 1810 Van Buren St., East Cleveland, Ohio, to 1580 Grace Ave., Lakewood, Ohio.

Henry, David B., from 694 Montclair to 510 Kitchener, Detroit, Mich.

Huber, E. J., from 2319 N. Main St., to 173 W. Fairview Ave., Dayton, Ohio.

Huber, M. A., from 1101 Buffum St., Milwaukee, Wis., to 4412 19th Ave., Kenosha, Wis.

Hunt, Harold, from 10644 Foley Ave., Detroit, Mich., to 2106 Broadview Rd., Cleveland, Ohio.

Josephson, Albert S., from 111 Peabody St., Gardner, Mass., to 1366 Eddy St., Providence, R. I.

Judd, Ed. N., Jr., from 206 Claremont, Montclair, N. J., to 430 Deversey Park, Chicago, Ill.

Kahler, N. K., from Winton Hotel to Fenway Hall, Cleveland, Ohio.

Limpert Ice Machine Corp., from Babylon, N. Y., to 21 East 40th St., New York, N. Y.

Lyons, Al., from The Electric Shop, 62 No. Sandusky St. to The Electric Shop, 270 E. Central Ave., Delaware, Ohio.

Mack, Wm., from 5421 Commonwealth Ave. to 6225 Jonathan, Detroit, Mich.

Meredith, Chas., from 414 Grand Ave., Apt. 26, Oakland, Calif., to c/o Hot-N-Kold Corp., 949 Mission St., San Francisco, Calif.

Midwest Refrigerator Co., from 707 Grand Ave., to 826 Locust, Des Moines, Iowa.

Monarch Refrigerator Co., from 1616 W. 43rd to 1244 West 61st Terrace, Kansas City, Mo.

Moran, M. S., from 606 Flatbush Ave., to 390 Parkside Ave., Brooklyn, N. Y.

Nordstrom, Martin C., from 210 No. Grove, Oak Park, Ill., to Rogers Hotel, Bloomington, Ill.

Northwestern Ohio Servel, Inc., from 216 N. Erie St. to 317 N. Erie St., Toledo, Ohio.

Page, Harry A., from 931 30th St. to 44th and State St., Milwaukee, Wis.

Parker, H., from 492 69th Ave., West Allis, Wis., to 0125 60th St., Milwaukee, Wis.

Donnelly, E. J., from 1530 Far Rockaway Blvd., to 1610 Far Rockaway Blvd., Far Rockaway, N. Y.

Reimer, A. C., from 2262 N. 4th Ave. to 1505 W. 3rd Ave., Columbus, Ohio.

Roberts, Clifford, from 196 Bowdoin St., Springfield, Mass., to 7 Geneva Ave., Indian Orchard, Mass.

Rodgers, J. B., from 1627 Penn Ave. to 20 N. Howard St., Pittsburgh, Pa.

Searle, H. J., from 429 Sprague to 923 Sprague Ave., W., Spokane, Wash.

Sears, Charles M., Inc., from 826 13th St., N. W., to 1015 15th St., N. W., Washington, D. C.

Schneider Electrical Works, from 1108 Farnam to 1102 Harney, Omaha, Nebr.

Sides, Fred H., from 115 Woodland Ave., Lexington, Ky., to c/o Frigidaire Corp., 50 Biltmore Ave., Asheville, N. C.

Tait, R. H. & Sons, Inc., from 18th and Cass to 813 Hempstead, St. Louis, Mo.

Taylor, B. T., from Ohio Electric Power Co., Sidney, Ohio, to Ohio Electric Power Co., De Graff, Ohio.

Townsend, R., from Box 300. Santa Barbara, Calif., to Box 379, Fresno, Calif.

Vogt, Howard, from 3117 Roanoke Ave. to 5010 Archmore Ave., Cleveland, Ohio.

Wampler, H. H., from 716 Lakeshore Ave., Oakland, Calif., to 322 Edgar Ave., Dayton, Ohio.

Watson, James, from 517 Quay St. to 507 Huron Ave., Port Huron, Mich.

Watson, John, from 517 Quay St. to 507 Huron St., Port Huron, Mich.

Wever, George D., from 119 W. 40th St. to 49 W. 45th St., New York, N. Y.

Whiting, Haro'd W. from 12510 Watterson to 2212 Waterbury, Cleveland, Ohio.

Changes of Address Omitted from the Previous Issue

American Radiator Co., from 816 Michigan Ave., Chicago, Ill., to 40 West 40th St., New York, N. Y.

Barber, Earl S., from 11 E. Austin, Chicago, Ill., to 540 Broad St., Columbus, Ohio.

Bigford, Thomas, from 715 Center Ave., Lake Bluff, to 19 June Terrace, Lake Forest, Ill.

Boynton, F. D., from 942 Peachtree St., Atlanta, Ga., to Kelvinator, Inc., 14250 Plymouth Road, Detroit, Mich.

Campbell, E. S., from 111 Ohio St., to 416 So. Broadway, Wheeling, West Va.

Carnles, V. H., from 352 West 13th St., to 154 W. 14th St., New York, N. Y.

Corlew, Frank S., from 42 Englewood Ave., Brookline, Mass., to Contoocook Manor, Antrim, N. H.

DeBee, B. M., from 16 Melba St., to 300 Raymond St., Pittsburgh, Pa.

Del Mar, Frank, from 206 West 88th St., to 2395 Morris Ave., Bronx, New York, N. Y.

Falleck, I., from 67 Summit Ave., to 49 Summit Ave., Albany, N. Y.

Foersterling, F. J., from 923 83rd St., to 64 East Lake St., Chicago, Ill.

Folk, F. E., from R. R. No. 1, to 220 No. 31. Kansas City, Kansas.

Godshall, C. L., from 620 Ferdinand, Forest Park, Ill., to 1901 S. Euclid Ave., Berwyn, Ill

Hardie, M. A., from 6327 Monitor St., to 581 Celeron St., Pittsburgh, Pa.

Huntoon, L. H., from 9303 East Jefferson to 3333 Gladstone, Detroit, Mich.

Iroquois Electric Co., from 14 West 48th St., to 1819 Broadway, New York, N. Y.

Jones, E. Y., from 820 West Bay, Jacksonville, Fla., to 811 N. Broadway, Oklahoma City, Okla.

Jones, L. Latta, from 931 City Center Bldg. New York, to 32-37 Queens Blvd., Long Island City, N. Y.

Midwest Refrigerator Co., from 707 Grand Ave., to 826 Locust St., Des Moines, Ia.

Miller, Paul E., from Automat Freezer, 753 26th St., to Fort Clark Hotel, Detroit, Mich.

Moniot, Frank E., from 1315, to c/o Mrs Kirkpatrick, Box 398, N. Side, Pittsburgh, Pa.

O'Donnell, J. O., from Martin Parry Corp., 20 Market St., York, Pa., to Martin Parry Corp., Indianapolis, Ind.

Pause, A. H., from 20 Elk St., to 212 Lancaster St., Albany, N. Y.

Peterson, Leonard A., from 14280 Ardmore, Detroit, Mich., to Box 326, Redford, Mich.

Pichel, Walter, from 1469 Lexington, Apt. 61. New York, N. Y., to c/o Brunswick Kroeschell Co., Export Dept., New Brunswick, N. J.

Polaraire Refrigerator, from 1300 Wallace St., to 1610 North St., Philadelphia, Pa.

Scott, J. E., from 1233 N. Meridan, Indianapolis, Ind., to Lawrence, Ind.

Smith, Albert A., from 30 Glenville Ave., Allston, Mass., to Kelvinator Sales Corp., 171 Sidney St., Cambridge, Mass.

Sprague, George W., from 11 Philips Ave., Lynn, Mass., to 244 Broad St., Providence, R. I.

Townsend, R. E., American Radiator Co. Buffalo, N. Y., to American Radiator Co., 40 West 40th St., New York, N. Y.

Wagner, P. C., from 1450 Victoria Ave., Lakewood, Ohio, to 2722 Madison Road, Cincinnati, Ohio.

Warren, W. J., from 1317 Euclid Ave., to Electric Refrigeration Service Corp., 11209 Greenwich Ave., Cleveland, Ohio.

Woit, A. J., from 887 1st St., Milwaukee, Wis., to Bourbon, Ind.

Zoellner, Stuart, from 1215 Manns Ave., to 1310 Manns Ave., Cincinnati, Ohio.

Subscription Order

ELECTRIC REFRIGERATION NEWS,
554 MACCABEES BUILDING, DETROIT, MICH.

Please enter my subscription to Electric Refrigeration News.

United States and Possessions:

☐ $1.50 per year. ☐ Three years for $3.00.

All other Countries:

☐ $1.75 per year. ☐ Two years for $3.00.

I am enclosing payment in the form of

☐ Check ☐ P. O. Order ☐ Cash

Name.....

Street Address.....

City and State.....

Remarks:.....

REQUESTS FOR INFORMATION

The following inquiries have been received by Electric Refrigeration News. Readers who can supply information on these subjects are invited to write at once, referring to the Query number.

In the Market for Fish Display Cases

Query No. 102—An Eastern manufacturer of refrigeration machinery requests a list of the concerns manufacturing refrigeration accessories such as coolers and fish display cases.

Wants Thermostats for Pop Coolers

Query No. 103—A distributor of electric refrigerators in Lincoln, Nebraska, writes as follows: "Will you please put us in touch with the manufacturers of thermostats which could be used on pop coolers."

Asks About Methylene Chloride

Query No. 104—An Iowa dealer asks: "Where could I obtain information on the use of methylene chloride as a refrigerant?"

THE CONDENSER

A CLASSIFIED COLUMN OF OPPORTUNITY

REPLIES to box number advertisements should be addressed to Electric Refrigeration News, 554 Maccabees' Bldg., Detroit, Mich.

ADVERTISING RATES—this column only:

POSITIONS WANTED (special rate if paid in advance): 50 words or less, one insertion, $2.00, additional words 4 cents each. Three insertions, $5.00.

POSITIONS AVAILABLE, For Sale, Business Opportunities, and all other classifications (special rate, if paid in advance): 50 words or less, one insertion, $3.00, three insertions $8.00, additional words, 5 cents each.

LINE RATE (open account): 50 cents per line.

POSITIONS WANTED

ENGINEERING EXECUTIVE, connected with electric refrigeration for ten years, desires connection with responsible manufacturer in temporary or permanent capacity as consulting or chief engineer. Capable of taking complete charge of engineering and manufacturing. Inventor and owner of widely used patents. Well acquainted with patent situation. Box 52.

An old established company, who have been building household and commercial ice machines from one-eighth up to 300 tons, for the last thirty years, desires to go in partnership with some company who has a shop and facilities for building machines or will build on railroad and furnish additional finances for operating the same. We would furnish about $100,000 worth of stock, machinery, tools, patterns, jigs, drawings and form a satisfactory partnership, so arranged so there cannot be any loss. All the facilities for making it one of the best and most practical business in this country, enjoying the best reputation in the United States. Will move anywhere. Can stand the keenest investigation. If interested, write us for information, Box No. 82.

Sales executive at present employed desires connection with progressive manufacturer, commercial and domestic units. Broad experience all phases of industry. Wide acquaintance. Compensation preferably salary and bonus basis but progressive policies and method of distribution highly important. Satisfactory references, of course. Box 83.

Experienced refrigeration sales executive of proven ability desires to establish a connection with a reliable manufacturer. Can submit best of references, have established distributors and dealers and successfully organized and conducted sales campaigns in principal cities. Expert at training and handling men. Capable of writing up sales programs. Box 84.

POSITIONS AVAILABLE

A service manager who is capable of making all types of commercial installations including large multiple apartment installations and who has executive ability to lay out work and supervise a large force of installation and service men, will find a desirable opening with one of the largest distributors of electric refrigeration in the East. Several years' experience on Kelvinator, Frigidaire or similar equipment desirable, but ability to properly manage department most important. Address replies in strict confidence to Box No. 85.

A reputable manufacturer of 50 years standing, with high rating, now in production of a high class household electric refrigerator, is looking for a man of ability and a proven record to take charge of sales. This manufacturer wants a man who will finance his own selling organization. There is an excellent margin in the business and a great opportunity for a man who has the ability and financial assistance. Box No. 87.

BACK ISSUES WANTED

Need issues 13 and 29 to complete file of Electric Refrigeration News. Gladly pay prevailing price for back issues. Address Box 86.

SALE OR RENT FACTORY—WAREHOUSE

Manufacturing plant suitable for wood or steel refrigerators. Also suitable for warehouse. Four floors, 40,000 square feet total, elevator, dust conveyor, large lumber storage, fire sprinkler system, 75 horse-power water wheel, dry kiln, new heating system, 50 miles from New York and Philadelphia—65 from Scranton on concrete highways. Two railroads, low taxes and non-union labor. Write Wm. F. Morris, 30 West Blackwell St., Dover, N. J.

Refrigeration Service Co., Inc.
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Maintenance, Installations, Alterations, Repairs
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Telephone: Chickering 0460
Office and Works 449 West 42nd St.
Warehouse 281 11th Ave.

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SPECIALIST IN HOUSEHOLD MACHINES AND WATER COOLERS, INVESTIGATIONS, REPORTS, SEARCHES. SPECIAL ATTENTION PAID TO ASSOCIATE WORK.
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SOLICITOR OF PATENTS
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Write for our new 1928 proposition assuring you
MORE AND BIGGER SALES
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WAGNER MOTORS FOR ELECTRIC REFRIGERATION
Wagner Small Motors meet the refrigeration standard—mechanically quiet—built to close tolerances. Available in ratings from 1/6-hp. to 1 1/2-hp.
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Made in any size or capacity. Seamless Copper Tubes, Individual Fins, Maximum Efficiency.
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NOVOID CORKBOARD
For all commercial jobs you will find NOVOID Corkboard Insulation the most satisfactory insulating material for the purpose. It is convenient to use. It comes in 12"x36" and 24"x36" sheets, in 1", 1½", 2", 3", and 4" thicknesses. Shipped in strong fibre containers, each containing 72 board feet. Samples on request.
Write for Catalog E-2
CORK IMPORT CORP.
345-349 W. 40th St., New York
Branches in Principal Cities

LEADING Refrigerator manufacturers use Monel Metal screws with Monel Metal trim.
Write for details to
The International Nickel Company (Inc.)
67 Wall Street New York, N. Y.
MONEL METAL

DRINKING WATER FAUCETS
for
Refrigerators - - Water Coolers
Cordley & Hayes
1 Leonard St. New York City

REPORTS ON HOUSEHOLD MACHINES
Reports for Inventors and Engineers: The accumulated data and experience of many years is at the disposal of inventors and engineers contemplating new designs, particularly those who wish to commercialize their ideas and get them on the market.
Reports for Manufacturers: For those who desire an independent report to check against their own Engineering Department we offer a special service and for manufacturers who do not maintain an Engineering Department we can furnish every facility.
Reports for Jobbers and Dealers: Those contemplating a substantial investment in handling a new make of machine should have expert opinion as to its qualities and characteristics. We furnish such an opinion at minimum cost.
Reports for Finance Companies and Bankers: Before you take paper on ice machines, it is desirable to find out something as to the quality of the machine from a technical standpoint. We specialize in making such reports.
H. R. VAN DEVENTER, INC.
Consulting Engineers
342 Madison Ave.
New York City

ELECTRIC REFRIGERATION NEWS

The business newspaper of the electric refrigeration industry

VOL. 2, NO. 22, SERIAL NO. 46 | Copyright 1928 by Business News Pub. Co. | DETROIT, MICHIGAN, JULY 4, 1928 | Entered as second class matter August 1, 1927, at the Post Office, Detroit, Michigan. | PRICE TEN CENTS

Georgia Power Establishes New Record by $641,400 Sales of G. E. Refrigerators

Will Celebrate with Barbecue at Atlanta, July 7

GEORGIA Power Company has again demonstrated the startling results which may be obtained through organized effort by selling over $600,000 worth of electric refrigerators in fifty-three working days, greatly exceeding a quota of one-half million dollars for the period of May 1 to June 30 inclusive, and beating the outstanding record set by the company in 1927 when a total of 1257 units with a value of $504,687.37 were sold in a campaign from May 4 to July 2.

Attention was centered on General Electric units for household applications, Kelvinator commercial equipment being used for the larger installations. In the 1927 drive Frigidaire products were featured and a considerable portion of the total sales consisted of commercial jobs, the higher price of these units greatly assisting in building up the total at that time.

This year it appeared that another quota of $500,000 would be extremely difficult to meet owing to the fact that so many of the best commercial prospects were already supplied, making it necessary to look almost entirely to the household field and requiring a considerably larger number of unit sales to accomplish the same dollar value. The efforts of the contesting districts were further handicapped by the exhaustion of the General Electric stock of smaller-sized units during the middle of the campaign. The inability of the manufacturer to meet the demand for the more popular sizes forced the sales organization to center its efforts on the higher-priced models which could be sold only to the comparatively limited number of wealthy-class prospects.

Pictures of the Georgia Power Co. executives, store managers and division sales supervisors with quotas, sales, and percentage standings of the districts up to June 28, two days before the close of the campaign, will be found on page four.

On June 26, four days before the finish, sales had reached $575,255.00, or 115. per cent of the quota and a new mark of $600,000 was set up to shoot at. Some of the districts were still behind but the excess sales of other districts more than compensated for the slow moving groups.

Final results of the campaign were not available at the time of going to press but a total sales of approximately $641,418.00 were reported by telegram to the *News* on Wednesday.

Airplane Contest Stirs Salesmen to Make Sales Soar

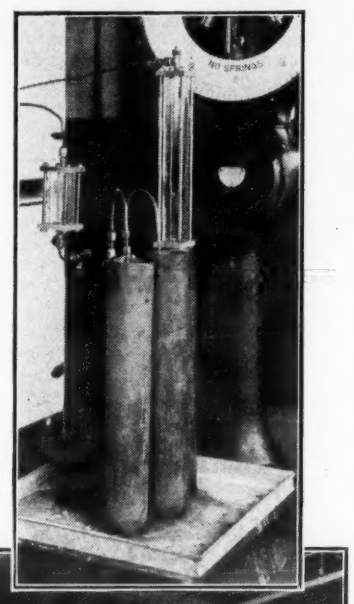
The competitive spirit was instilled into the entire organization by the staging of an airplane race around the world in which each district office was represented by a plane flying over a charted course. Large blue print maps were furnished to each district showing the route of the race which covered the following cities: Atlanta, Schenectady, Halifax, London, Paris, Berlin, Madrid, Rome, Constantinople, Alexandria, Bagdad, Delhi, Calcutta, Mandalay, Hong Kong, Yokohoma, Sydney, Wellington, Honolulu, San Francisco and back to Atlanta. The status of the different districts was shown daily by locating the position of each plane on the map.

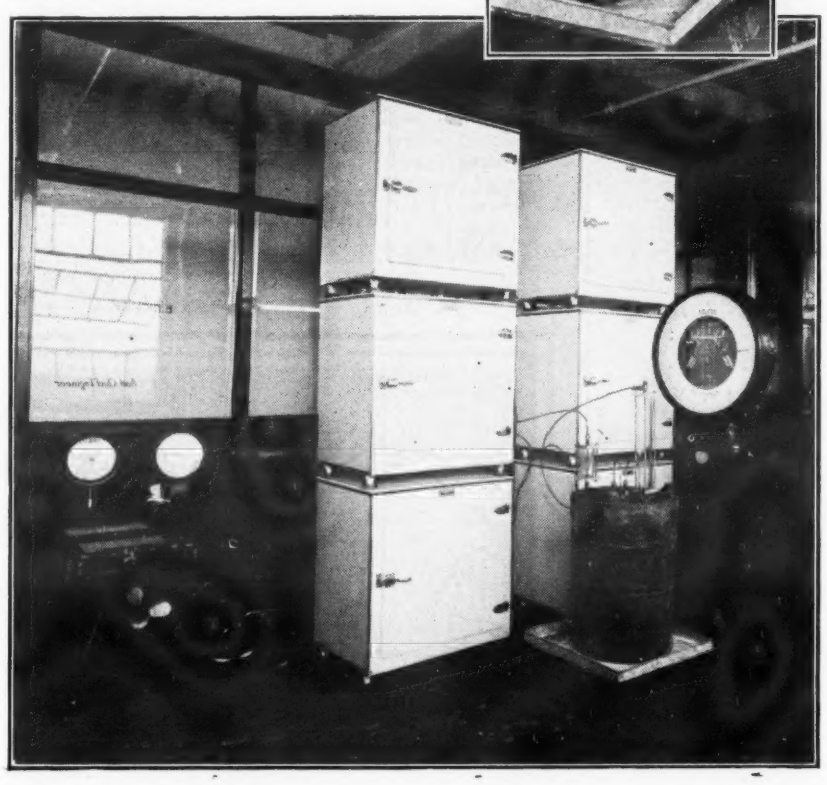
The final touch in the dramatization of the contest will be staged at Candler Field, the Atlanta airport, Saturday afternoon, July 7, when the winning salesmen from the various districts will be brought to Atlanta by airplane to receive prizes and participate in a celebration barbecue.

Interest has been added to the celebration by the announcement that P B. Zimmerman, sales manager of the General Electric Co., and C. A. Collier, vice-president in charge of sales of the Georgia Power Co., accompanied by trade press representatives, would make the trip from Cleveland to Atlanta by airplane and that a special edition of ELECTRIC REFRIGERATION NEWS, featuring the event, would be distributed in Atlanta. A Stinson monoplane, with Lester F. Bishop, chief pilot of the Thompson Aeronautical Corp., in charge, has been chartered by the General Electric Company for the trip.

Plans have been made for the General Electric plane to arrive at Candler field, Atlanta, where the barbecue will be held, at 5 P. M. Saturday. Before landing the plane will shower messages of congratulation to the Georgia Power Co.

DEMONSTRATION OF MULTIPLE SYSTEM





Apparatus used by electric refrigeration engineers to disprove arguments that the multiple system is an extra hazard to safety in the event of mechanical injury to the copper tubes which convey the refrigerant from the compressor unit in the basement to the various cabinets of an apartment installation. One of the objections to the multiple system has been the contention that, should a leak occur, the refrigerant from the entire system might be drained into one apartment. The apparatus shown was arranged so that the tube could be cut and an accurate measurement made of the refrigerant discharged. It was shown that only a small portion of the total charge is permitted to escape owing to the action of the expansion valves which automatically trap most of the refrigerant on the low pressure side of the system.

TRADE ASSOCIATION FORMED BY NEWARK REFRIGERATION MEN

Twelve Makes Represented at June 25 Organization Meeting

Fourteen men were present at the organization meeting of the Electric Refrigeration Trade Association of Newark, held at the Newark (New Jersey) Athletic Club, June 25. Distributors and direct dealers of the following electric and gas refrigerators sold in the city of Newark and vicinity were present: General Electric, Kelvinator, Welsbach, Electrolux, Rice, Lamson, Ice-O-Lator, Norge, Zerozone, Copeland, Superior, Merchant & Evans.

The following officers were elected: Otto to W. Nelson of Banister & Pollard, Newark distributors for Merchant & Evans refrigerators, president; E. M. Bishop, Bishop Electric Refrigerating Co., Newark representatives for Lamson and Rice refrigeration, vice-pres.; T. E. Babson of Philip H. Harrison and Co., distributors of General Electric refrigerators for Northern New Jersey, sec-treas.

The purposes of the association as given in the by-laws are to standardize and further fair methods and practices of conducting business among manufacturers and sales agents of electric and mechanical refrigerating apparatus and to establish uniformity in business relations and to promote closer ties of business association among its members; also to afford mutual protection to its members and the public.

Included in the aims of the Association are an exchange of information regarding retail salesmen, education of architects in all types of buildings, education of the general public as to the benefits of electric refrigeration, and solution of the many problems with regard to metering, electric rates, wiring, and other matters pertaining to the power companies.

The matter of combining the association with the local Electric League was discussed in detail with a view to operating in a manner similar to the Cleveland Electric League. Action on this matter was deferred to a future meeting.

It is proposed in addition to the present membership of the association to take in as associate members, any dealer or a member of his organization engaged in selling machines distributed by the voting members. This proposal when ratified will it is expected, produce a large enrollment in the association.

DAIRY EXPOSITION TO BE HELD IN CLEVELAND OCT. 15-20

Announcement is made that the third Dairy Industries Exposition will be held in Cleveland October 15 to 20, 1928. This exposition is under the management of the Dairy and Ice cream Machinery and Supplies Association, Inc., 225 West 34th Street, New York City.

E. S. Lape Made Sales Manager of Franklin Air Compressor Corp., Refrigerator Division.

Franklin Air Compressor Corp., Norristown, Pa., a division of Kulair Corp., announces the appointment of E. S. Lape as sales manager of its refrigeration division. Mr. Lape was at one time connected with Kelvinator Corp. and more recently with the Welsbach Co.

Electro-Kold Corp., Opens Branch Office in Tacoma

Electro-Kold Corp., Spokane, Wash., recently opened a new agency at 741 Broadway St., Tacoma, Wash. Thomas J. Beglin will be in charge of the branch.

Safety Code Considered at Series of Meetings Held in New York City and Detroit

Principal Discussion Centers on Multiple System

A MEETING of the Mechanical Refrigeration Code Safety Committee of the American Engineering Standards Committee held in New York City Monday, June 25 for consideration of the amendment to the proposed National Refrigeration Code, with particular reference to the subject of multiple installations; two meetings, one held in New York, and the other in Detroit, at which recommendations were made for changes in the proposed refrigeration code of Cleveland; and a series of demonstrations of the multiple system made before representatives of safety organizations, insurance companies, and municipal fire chiefs in New York City, occupied the time and attention of the engineers of the leading manufacturers of refrigerating equipment last week.

The meeting for the consideration of modifications to the proposed national Code, called by R. R. Leonard, secretary of the sub-committee on mechanical refrigeration codes of the American Engineering Standards Committee, was held on the tenth floor of the Engineering Society's Building, 29 West 39th Street, New York, was arranged especially to bring out further argument for and against the multiple system. The program of the meeting, to which the public was invited and which was unusually well attended was announced as follows:

The complete draft of the proposed National Refrigeration Code as presented at the New York meeting is given on page 5.

The consideration of written suggestions for code modification.

Discussion of information sent to the committee members by Fremont Wilson, regarding multiple installations and the use of sulphur dioxide.

Presentation of arguments against the multiple system.

Luncheon at the Roosevelt Hotel followed by the presentation of arguments for the multiple system. C. F. Kettering, chief engineer of the General Motors Research Corporation was the principal speaker at the luncheon session.

Inspection trip of Frigidaire multiple installations.

Executive session of the committee at the Engineering Society's building for final action on the multiple system.

On Tuesday, June 26, representatives of manufacturers of machines under one ton capacity met at the Roosevelt Hotel, New York City, to consider recommendations for modifications in the proposed Cleveland code governing the installation operation and inspection of refrigeration systems and the storage of refrigerants. The proposed code, which had been drawn up under the direction of Colonel Whitelock, chief of the Smoke Department of the City of Cleveland, and which had been given a public hearing in Cleveland on June 19. L. S. Keilholtz was chairman and C. C. Spreen was secretary of the meeting, with attendance as follows:

V. C. Kylberg (Iroquois); H. M. Williams, (Frigidaire); Glenn Muffley, (Copeland); C. C. Spreen, (Kelvinator); C. Jolly, (General Motors); L. S. Keilholtz, (Frigidaire); C. O. Ward, (Devon); E. A. Smith, C. Eschner and H. Treganowan, (Electro Vacuum Refrigerating Co.); E. T. Williams, (Servel); J. G. DeReimer, (Savage Arms); Fremont Wilson.

The meeting of western manufacturers of machines under one ton capacity, was held at the Statler Hotel Detroit, Friday, June 29. Most of the vision was devoted to the consideration of the Cleveland code and a number of recommendations were approved. This was followed by a study of national code during which various changes in this document were also drawn up for presentation at the final hearing which will be held in September.

The preliminary draft of the proposed refrigeration code for the city of Cleveland, together with the principal changes recommended by action taken at the Detroit meeting, will be found on page. 7

C. C. Spreen was chairman and C. J. Jolly secretary of the Detroit meeting which was attended by the following: T. S. Pendergast (Absopure); R. W. Kritzer, (Peerless Ice Machine); H. M. Timmerman, (General Electric); J. J. Donovan, (General Electric); C. C. Spreen (Kelvinator); C. J. Jolly (General Motors); F. M. Cockrell (*Electric Refrigeration News*); Patterson Farmer, (Universal Cooler); R. G. Nelson (Norge); and L. S. Keilholtz, (Frigidaire).

SAFETY CODE EVENTS

Engineering representatives of eastern manufacturers met in New York to study requirements of municipal safety code being considered by the city of Cleveland, Ohio.

Meeting held in Detroit at which engineering representatives of western manufacturers drew up recommendations for changes in Cleveland code.

Sub-committee of the American Engineering Standards Committee holds public hearing in New York City to consider pros and cons of the multiple system.

Series of demonstrations by manufacturers favoring the multiple system staged in New York for the benefit of safety, insurance, and fire department visitors.

It is reported that safety codes governing the installation of refrigerating equipment will be considered in the near future by municipal authorities in the cities of Hartford, Boston, Buffalo, Chicago and Dallas, and also by the State of New Jersey.

COMMITTEE FAVORS RULES TO REGULATE MULTIPLE SYSTEM

Safety Discussion Attracts Large Attendance at Meeting

The meeting of the Mechanical Refrigeration Safety Code Committee, a sectional committee of the American Engineering Standards Committee, held in New York City, Monday, June 25 (referred to in the adjoining column) was devoted almost entirely to discussion of the multiple system for installing domestic refrigeration equipment in apartment houses.

As a result of the consideration of the arguments advanced on both sides of the question, the committee abandoned the proposed plan of submitting the code to the sponsor body in its present form and leaving further treatment of the multiple system until a later date. It was voted to proceed immediately with the formulation of rules and regulations covering the installation and operation of such systems. The code will then be placed before the Council of the American Society of Refrigerating Engineers as a complete unit.

F. E. Matthews, chairman of the code committee, presided at the meeting which was attended by the following:

John E. Starr, Starr Engineering Co., 90 West Street, New York City.
A. B. Morgan, National Electric Light Association, 420 Lexington Ave., New York City.
C. K. Nichols, N. Y. Edison Co., 130 East 15th St., New York City.
Fremont Wilson, Consulting Engineer, 50 Church St., New York City.
John A. Lunn, National Refrigerating Co., 125 Munson St., New Haven, Conn.
Charles C. Spreen, Kelvinator Corp., 14250 Plymouth Road, Detroit, Mich.
John R. Eldridge, Virginia Smelting Co., 2 Rector St., New York City.
D. L. Fiske, American Society of Refrigerating Engineers, 37 West 39th St., New York.
Carlos J. Jolly, General Motors Corp., Detroit, Mich.
A. R. Stevenson, Jr., General Electric Co., Schenectady, N. Y.

(*Concluded on Page 7, Col. 4*)

OMAHA FURNITURE STORE PRESENTS ICELECT UNIT

IcElect electric refrigerators manufactured by IcElect Corp., Omaha, Nebr., were first offered to the public on June 15 by the furniture house of Corte-Corzine, Omaha. Five sizes and four different colors are available at present, according to E. L. Corzine, junior member of the firm who will have charge of Omaha sales of the IcElect machine.

"Judging from the comment of visitors I would say that the models finished in white will sell much more readily than the others, although some have indicated that they prefer them in colors to match other kitchen furniture," said Mr. Corzine.

"This will be a busy field for our activities and I'm sure that the electric refrigeration idea will take strongly with our clientele for I know the temperament of my customers and am figuring on realities and not dreams."

One thing in particular that causes Mr. Corzine to feel so sure of his ground is the fact that the Corte-Corzine Co. last year sold 300 Leonard refrigerators to their customers and all of these were to have been used with ice but all were fitted for the installation of an electric refrigeration unit. "That of itself insures us of a considerable trade in equipping a fairly good percentage of those cabinets sold. Of course, we do not expect to sell all of these, but all who can spare the finances at this time are at least hot prospects," said Mr. Corzine.

Mr. Corzine stated that the majority of those who have seen the new models have expressed a preference for a machine of the seven cubic foot capacity. "This is going to be a selling campaign to the masses and not to the classes. I can see bigger sales that way, than wasting my time on the select of the city, and as long as the firm will finance the buyers on the same terms we have used in the furniture business with such good success, I can see big business ahead," concluded Mr. Corzine.

NEW CONVERSION FEATURE INTRODUCED BY WELSBACH

The Welsbach Co., Gloucester City, New Jersey, has made available a vegetable drawer designed for use in a cabinet where the condensing unit is removed from the machine compartment for a remote installation. The standard motor compartment door is used in connection with the vegetable drawer.

The conversion of the motor compartment into a vegetable bin is quite simple. The only parts being needed are the metal bin, two bottom rails, and two top rails which center the bin within the compartment, and a handle to be attached to the front of the drawer.

Later on should the owner move to a location where a self contained unit is necessary, the conversion equipment may be easily removed and the condensing unit re-installed in the base of the cabinet.

COPELAND ADDED 171 NEW SALES OUTLETS DURING JUNE

One hundred and seventy-one new sales outlets were added during June by the Copeland Products, Inc., Detroit, according to an announcement by W. D. McElhinny, vice-president in charge of sales. Among these are the Hudson's Bay Co. at Vancouver, B. C., Hahne & Co., Newark, N. J., and the Meese-Reinker Co. of Akron, Ohio, one of that city's largest stove stores. The greatest increases in sales outlets were 21 in Pennsylvania, 16 in New York, 13 in Ohio, 11 in California and 10 in Missouri.

Refrigeration to Have Prominent Place in Eastern States Exposition

Food products and the business of catering to the public appetite will be featured primarily in the Industrial Arts Show of the Eastern States Exposition at Springfield, Mass. September 16 to 22. Refrigeration both by electricity and by ice will be given a prominent part in the 1928 exposition.

W. H. Schladitz With Chicago Absopure

William H. Schladitz, formerly affiliated with the Kelvinator organization is now connected with the Chicago office of the Absopure Frigerator Co., division of Aladdin Utilities Corp., 1222 South Michigan Ave. Mr. Schladitz home address is 5426 Windsor Avenue, telephone Kildare 2021.

Miss. Pr. & Lt. Installed 110 Units First Two Weeks in June

R. F. Judd, sales manager of the Mississippi Power & Light Company at Jackson, Miss., announces that his company installed 110 General Electric refrigerators during the first two weeks of June.

Joins Iroquois

W. E. Worrell
whose appointment as manager of sales for the Iroquois Electric Refrigerator Co. was announced in the preceding issue.

PORTLAND CONCERN USES UNUSUAL PLAN TO SELL APARTMENT HOUSE OWNERS

George Ruck, Pacific Coast manager of General Electric refrigerator sales, tells of an unusual plan for selling electric refrigerators to the apartment house owner.

This plan worked out by The Arch Electric Co., Portland, Oregon, covers a proposition which the owner makes to his tenants and runs approximately as follows:

The owner will put in an electric refrigerator and charge the tenant $3.00 per month for rent. Any tenant who lives in the apartment long enough to pay out his refrigerator at $3.00 per month, owns it, then his rent is reduced this amount. If the tenant moves before he has paid out the refrigerator, he can pay the owner the difference between the amount paid in, and the selling price of the machine, and the machine is then his.

This plan has been responsible for increasing apartment house sales of the Arch Electric Co.

A TEMPTING SALAD FOR HOT DAYS

Ginger Ale Salad

¾ cup grated pineapple
¾ cup chopped cucumber or grapefruit pulp
⅓ cup chopped nuts
1 cup ginger ale
⅛ teaspoon salt
⅛ teaspoon paprika
1½ tablespoons gelatine
½ cup cold water

Drain the pineapple. Chop the cucumber and nuts. Combine with seasonings and ginger ale. Soak the gelatine in the cold water and dissolve it over hot water. Add to first mixture and mix thoroughly. Pour into refrigerator tray or into individual molds. Chill three hours. Serve, garnished with mayonnaise, on lettuce. Little cheese crackers go well with this salad.

Florida G. E. Dealers Meet in Sales Conference at Orlando

General Electric dealers in Florida met June 12-13 at the Angebilt Hotel, Orlando Fla., for a two day sales promotion conference. More than 70 dealers who under the Florida Refrigeration Company attended the sessions.

Charles S. Roesch, assistant sales manager of the electric refrigeration department of the General Electric company, Cleveland, Ohio, and W. L. Driscoll, district representative at Atlanta, addressed the dealers. George S. Patterson, head of the distribution organization in Florida attended the conference and A. T. Emmett sales manager, directed the program.

Chilrite Has New Distributor in Milwaukee

The Electric Household Shops Inc., Milwaukee, Wis., have taken on the state distributorship of the Chilrite electric refrigerator. The firm has opened a showroom at 133 Third St. and has five refrigerators in a special display at this time. Officers of the firm are P. E. Deuster, president; Mrs. Rose Deuster, vice-president, and Edward Karl, secretary treasurer.

Madison Firm Takes On Iroquois

The Automotive Electric Sales Co., 122 West Main St., Madison Wis., has taken the agency for Iroquois electric refrigerators. Extensive advertising in local newspapers marked the first week in which the firm was in operation.

ALLISON DISTRIBUTORS ANNOUNCE NEW DEALERS

The Domestic Electric Refrigerator Corp., 2 West 46th Street, New York City, announces the recent appointment of new dealers made by their distributors as follows:

The City Auto Co., Bridgeport Conn., has appointed Workmen Rawlinson Co., and E. W. Zwick, both of Torrington, Conn.

The York Supply Co., Dayton, Ohio announces the following dealer appointments in Ohio: Haines-Miller Co., Circleville; Frank Knoderer, 1294 E. Main St., Columbus; Zerkel Bros., Troy; McClure & Schultz Bros., Tippecanoe City; L. H. Miller, Marysville; Ben's Radio Shop, 2105 N. High St., Columbus; Burk-Smith Co., Lancester; Young Electric Co., Newark; Weigands, E. Third St., Dayton; Gerard & Sons, 22 Hamilton Ave., Dayton.

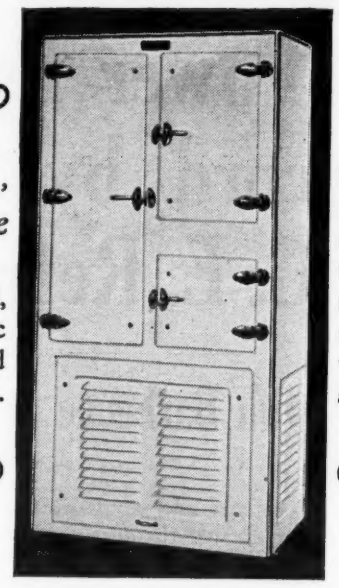
Meadows Sales Co., Pittsburgh, Pa., has appointed B. M. Swank, Vandergrift, Pa.

The Charleston Hardware Co., Charleston, W. Va., announces these appointments: Chestnut Ridge Supply Co., Wharton; Elkhorn Piney Coal Mining Co., Stanaford; Elkhorn Piney Coal Mining Co., Powellton; Beckley Electric Light & Power Co., Beckley; Gill & Schadel, 217 Broad Street, Charleston.

G. E. GIVES JEWETT CO. ORDER FOR 10,000 CABINETS

The electric refrigeration department of the General Electric Co. has placed with the Jewett Refrigerator Co., of Buffalo, an additional release for 10,000 cabinets in the five and seven foot cubic sizes. The Jewett Co. is at present operating on a weekly production schedule of 700 of these two sizes.

BOHN'S *Latest Achievement* — The New
BOHN "Super Quality" Refrigerator



Beautiful, Distinctive

Can be had in 5, 6, 7, 9 and 12 cubic foot net food storage capacity.

White Porcelain Enamel inside and outside. The machine compartment is ideal for storage space where remote installation is made.

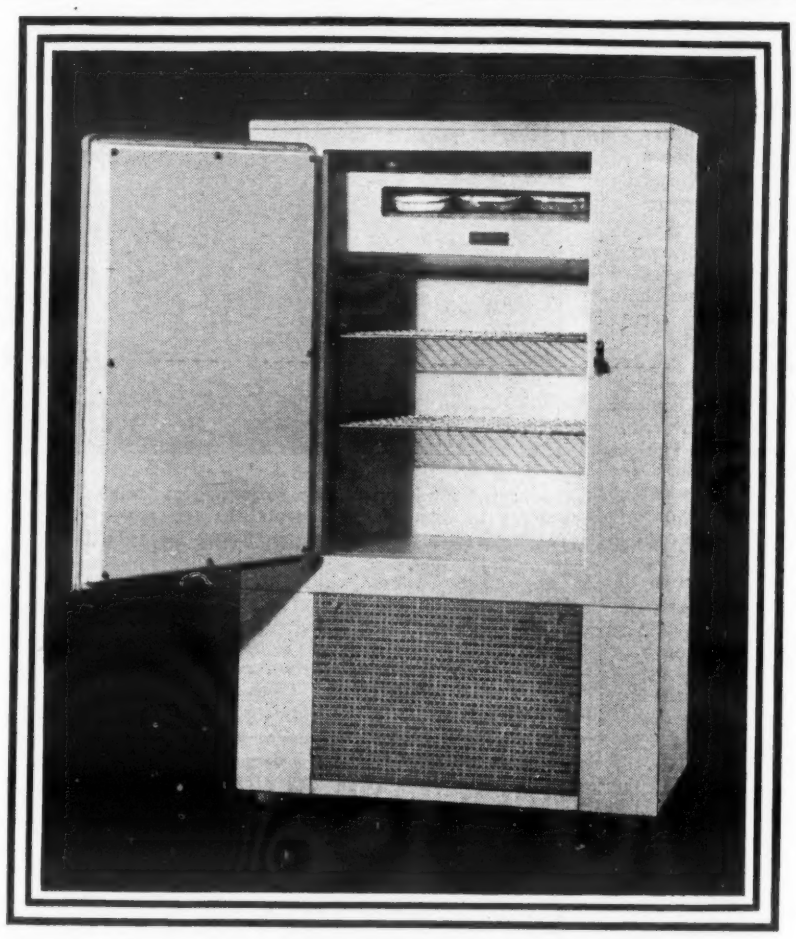
[Featuring the Insulated Baffle Wall]

The lowest prices in our 31 years of manufacturing *"Super Quality"* Refrigerators

BOHN REFRIGERATOR COMPANY
SAINT PAUL, MINNESOTA

These models are on display at our own stores in

NEW YORK — 5 East 46th Street
CHICAGO — 227 No. Michigan Blvd.
BOSTON — 707-709 Boylston Street



Where can you equal Kelvinator reliability?

KELVINATOR Electric Refrigerators are running today that have gone eight years without service costs in excess of a few dollars. Kelvinators are running today that have delivered constant service for three, four and five years without any service costs at all!

Kelvinators are running today that have operated for *twelve years* steadily! Where can you match Kelvinator reliability?

The central station can confidently recommend and sell Kelvinator Electric Refrigerators to its customers on this long record of automatic, fool-proof refrigeration service.

You will be interested in the late Kelvinators . . . in their wide variety of sizes, prices and designs. Let us tell you more about them. Write today for full information.

Save the address below as a reminder.

Kelvinator Corporation
DETROIT

A New World's Record

Georgia Power Company Sells Over 1400 General Electric Refrigerators in 60 Days

On May 1, the Georgia Power Company of Atlanta launched a special 60-day sales activity on electric refrigerators. The campaign ended, as originally planned, on June 30th. Sales for the two months exceeded $641,000. Eighty-five percent of the total sales represented orders taken for General Electric refrigerators—approximately 1400 being sold during the 60-day period.

The campaign was supremely well organized and executed, as shown by the record smashing results, and reflects great credit upon the management.

An Outstanding Achievement

A new record has been set. Never before has such a mark even been approached. Never before have so many domestic refrigerators been sold by a public utility company in so short a time. Truly an outstanding achievement. To the Georgia Power Co. goes the 1928 championship title and with it our heartiest congratulations. Their remarkable sales performance is one more indication of the country wide preference which is constantly shown for this "years ahead" refrigerator — the worthy development of the General Electric research laboratories.

The Choice of the Nation

Only thirteen months ago was this new-day refrigerator placed on the market, yet today nine factories are working at top speed to keep pace with the ever-growing demand. Production is still increasing but we are holding firmly to the original policy of *making them only as fast as we can make them perfect.*

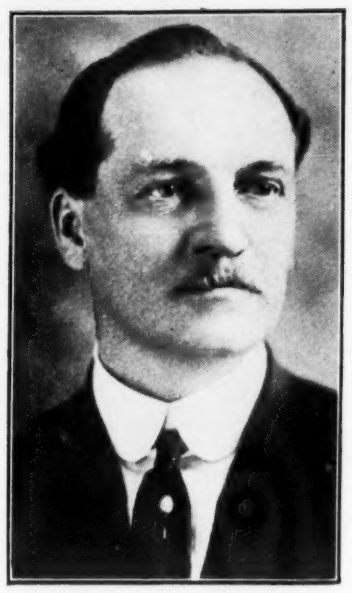
More than 2200 carloads of General Electric refrigerators have been sold and placed in American homes during the last ninety days.

GENERAL ELECTRIC

Refrigerator

Electric Refrigeration Department, Hanna Bldg., Cleveland, Ohio

Central Station Leaders Inspire Salesmen to Go Over Top in Big Drive



W. E. MITCHELL
Vice-President and General Manager

CHAS. A. COLLIER
Commercial Vice-President

H. A. PENDERGRAPH
Merchandise Manager

ON Wednesday, July 4, a telegram received from the Georgia Power Co. stated that on that day the approximate total sales in the General Electric Refrigerator "Round the World" campaign was approxi-Electric Refrigerator "Round the World" campaign was $641,418.00.

The standings of the various districts on June 28, two days before the close of the campaign, were as follows:

CLASS "A"

Rank	District	Quota	Sales	% of Sales
1	INMAN PARK	$50,000	$91,220	182%
2	WEST END	25,000	41,442	166%
3	DECATUR	20,000	25,875	129%
4	ALEXANDER-SEEWALD	50,000	55,129	110%
5	MACON	60,000	61,183	102%
6	TENTH STREET	35,000	34,288	98%
7	COMMERCIAL	40,000	31,761	80

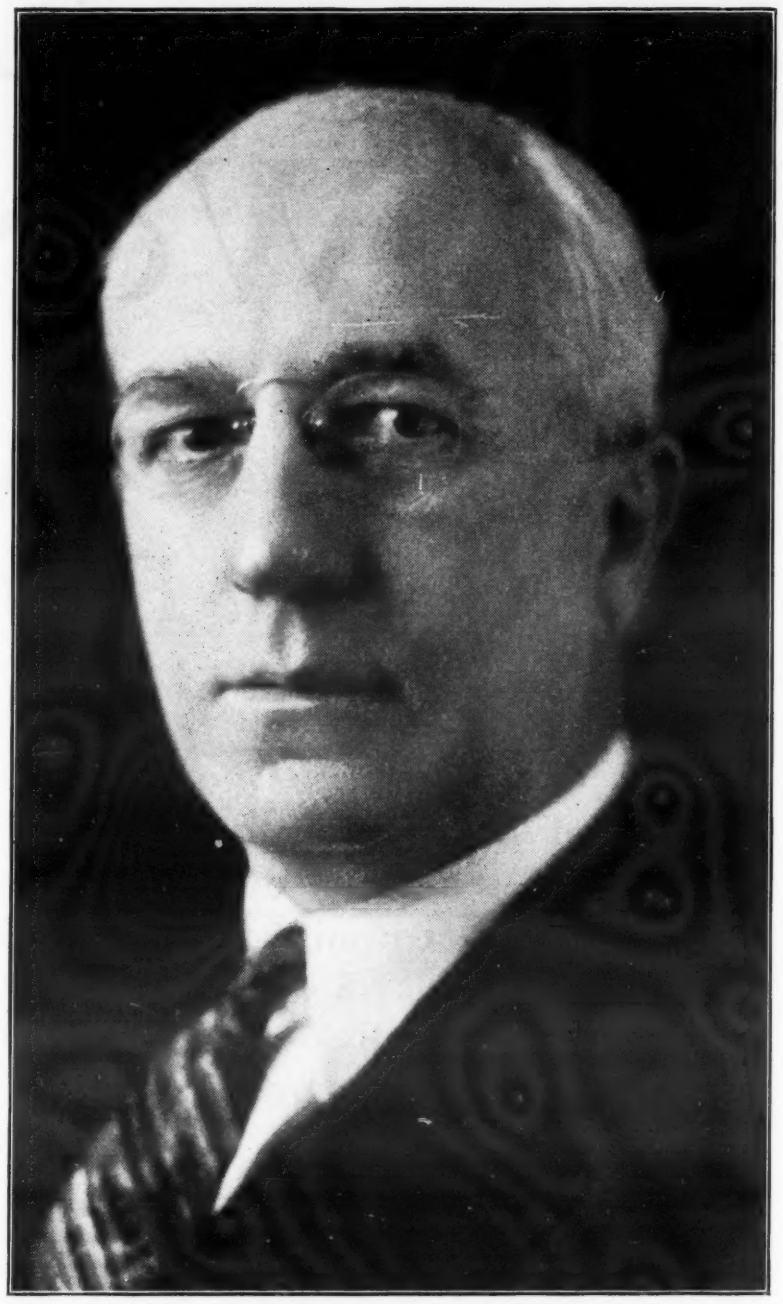
CLASS "B"

Rank	District	Quota	Sales	% of Sales
1	BUCKHEAD	$30,000	$47,903	160%
2	MILLEDGEVILLE DISTRICT:			
	Milledgeville	6,464	8,442	131%
	Eatonton	1,959	4,082	208%
	Sparta	1,962	2,163	110%
	DISTRICT TOTAL	$10,382	$14,687	142%
3	ATHENS DISTRICT:			
	Athens	$22,760	$24,506	107%
	Jefferson	1,223	2,948	241%
	DISTRICT TOTAL	$23,983	$27,454	114%
4	CARROLLTON DISTRICT:			
	Carrollton	$10,000	$10,073	100%
	Tallapoosa	2,153	3,006	140%
	DISTRICT TOTAL	$12,153	$13,079	107%
5	DUBLIN DISTRICT:			
	Dublin	$11,218	$13,222	119%
	Tennille	1,474	638	43%
	Wrightsville	1,631	1,183	73%
	DISTRICT TOTAL	$14,323	$15,043	103%
6	ROME DISTRICT:			
	Rome	$26,025	$24,047	92%
	Adairsville	726	1,527	210%
	Ringgold	657	2,085	317%
	Summerville	1,502	1,829	121%
	DISTRICT TOTAL	$28,910	$29,488	102%
7	STATESBORO DISTRICT:			
	Statesboro	$ 5,135	$ 3,312	65%
	Claxton	1,676	1,099	65%
	Metter	1,644	1,020	62%
	DISTRICT TOTAL	$ 8,454	$ 5,431	64%
8	BRUNSWICK	$14,110	$ 7,910	56%
9	GAINESVILLE	11,730	6,551	56%

CLASS "C"

Rank	District	Quota	Sales	% of Sales
1	WOODBURY	$ 2,151	$ 6,519	303%
2	SWAINSBORO DISTRICT:			
	Swainsboro	$ 2,577	$ 7,437	290%
	Midville	872	2,193	251%
	Wadley	917	1,125	123%
	DISTRICT TOTAL	$ 4,366	$10,755	246%
3	JASPER	$ 2,596	$ 4,838	189%
4	GREENSBORO DISTRICT:			
	Greensboro	$ 1,924	$ 3,542	184%
	Social Circle	1,181	2,155	182%
	DISTRICT TOTAL	$ 3,105	$ 5,697	183%
5	PANOLA DISTRICT:			
	Conyers	$ 2,002	$ 1,236	61%
	Lithonia	2,070	5,577	270%
	DISTRICT TOTAL	$ 4,072	$ 6,813	167%
6	EASTMAN DISTRICT:			
	Eastman	$ 3,444	$ 4,756	140%
	Helena	1,000	1,053	105%
	McRae	1,521	3,138	206%
	DISTRICT TOTAL	$ 5,965	$ 8,947	150%
7	FRANKLIN DISTRICT:			
	Hartwell	$ 4,166	$ 5,811	140%
	Lavonia	1,346	1,641	122%
	Royston	1,694	2,431	143%
	DISTRICT TOTAL	$ 7,206	$ 9,883	137%
8	TOCCOA	$ 3,635	$ 4,869	134%
9	VIDALIA	6,130	8,251	134%
10	DOUGLASVILLE DISTRICT:			
	Douglasville	$ 5,470	$ 4,177	76%
	Dallas	1,018	4,474	440%
	DISTRICT TOTAL	$ 6,488	$ 8,651	133%
11	HAZLEHURST DISTRICT:			
	Hazlehurst	$ 1,310	$ 1,760	135%
	Baxley	1,765	2,199	113%
	DISTRICT TOTAL	$ 3,075	$ 3,959	129%
12	CORNELIA	$ 5,213	$ 5,977	114%
13	McDONOUGH	4,273	4,518	106%
14	WAYNESBORO DISTRICT			
	Waynesboro	$ 4,388	$ 3,025	70%
	Millen	3,377	3,005	90%
	DISTRICT TOTAL	$ 7,754	$ 6,030	77%
	TOTALS	$500,000	$604,151	120.8%

N. E. L. A. Chief Demonstrates Market for Refrigeration



P. S. Arkwright

President of the Georgia Power Co., Atlanta, Ga., whose enthusiasm for electric refrigeration has been an important factor in the success of the remarkable sales campaign just completed by his organization. Mr. Arkwright is widely known as one of the outstanding public utility executives of the country, his position in the industry having been attested by his election as president of the National Electric Light Association at the recent convention in Atlantic City. His interest in promoting electric refrigeration and the demonstration made by his company will undoubtedly have a profound influence upon other public utility organizations.

Men Who Put Pep Into the Georgia Power Campaign

E. V. DUNBAR
[Sales Mgr. Alexander-Sewald Co., Distributors

S. F. BATES
Sales Supervisor
Macon Division

O. M. JACKSON
Sales Supervisor
Dublin Division

C. O. BROWN
Asst. Mdse. Mgr. Districts

H. L. HENDON
Sales Supervisor
Athens Division

T. W. WILSON
Sales Supervisor
Rome Division

W. D. ALEXANDER
Pres. Alexander-Sewald Co. G. E. Distributors

Store Managers (below) and Division Sales Supervisors (above) Who Piloted Contest Planes

W. J. SCUDDER
Store Manager
Peachtree

R. W. HARRIS
Store Manager
84 Walton St.

MRS. AMELIA ELKIN
Store Manager
Buckhead

I. H. MOREHEAD, JR.
Asst. Mdse Mgr.. Atlanta

F. W. COLLINS
Store Manager
Inman Park

A. H. WILSON
Store Manager
Decatur

H. G. HAMILTON
Store Manager
West End

NATIONAL SAFETY CODE DISCUSSED AT NEW YORK MEETING

Text of Proposed Regulations Being Considered by American Engineering Standards Committee

FOLLOWING is the complete text of the proposed National Safety Code for Mechanical Refrigeration which has been in process of revision for over two years. Further changes were recommended at meetings held in New York and Detroit last week, reported elsewhere in this issue. According to the present schedule the code will be submitted to the American Engineering Standards Committee for final approval in September.

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Section
1000—Scope, Purpose & Application.
1100—Definitions.
1200—Classification of Refrigerating Systems.
1300—Limitations as to Use.
1400—Designs, Installation and Testing.
1500—Safety Devices.
1600—Open Flames and Electrical Equipment.
1700—Supervision.
1800—Machinery Rooms.
1900—Operating Precautions.

Section 1000—Scope, Purpose and Application

1001. Scope: This Code is intended to provide for the safe installation and operation of every refrigeration machine.

1002. Purpose: The purpose of this Code is to provide reasonable safety for life, health and property.

1003. Application: Buildings, stairways, exits, transmissions, moving machinery, steam and electrical installations, pressure vessels, etc., not specifically covered by this Code shall conform to their respective rules and regulations.

Section 1100—Definitions

1101. **"Container,"** a cylinder for the transportation of refrigerants constructed to conform to the regulations of the Interstate Commerce Commission.

1102. **"Direct Method of Refrigeration,"** one in which the refrigerant is circulated to the material or space refrigerated.

1103. **"Flammable Refrigerant,"** any refrigerant which will burn or explode when mixed with air.

1104. **"Fusible Plug,"** is a device having a pre-determined temperature, fusible member for the relief of pressure.

1105. **"Indirect Method of Refrigeration,"** one in which a liquid cooled by the refrigerant is circulated to the material or space refrigerated.

1106. **"Liquid Receiver,"** a vessel permanently connected to the high pressure side of the system by inlet and outlet pipes, for the storage of refrigerant.

1107. **"Noxious Refrigerant,"** for the purposes of this Code, any refrigerant which when breathed is harmful and pernicious.

1108. **"Pressure Limiting Device,"** a pressure or temperature-responsive mechanism for automatically stopping the operation of the pressure imposing element.

1009. **"Pressure Relief Device,"** a pressure relief valve, rupture member, a fusible plug or other approved device for relieving the pressure.

1110. **"Pressure Relief Valve"**, a valve held shut by a spring or other means which automatically relieves pressures in excess of the setting.

1111. **"Public Buildings, Business Buildings, Residence Buildings,"** are buildings as so defined by Statute, Ordinance or Code.

1112. **"Refrigerant,"** is the chemical agent used to produce refrigeration.

1113. **"Refrigerating Machinery Room,"** is one in which is located any pressure imposing element, condenser, receiver or shell type apparatus.

1114. **"Refrigerating System,"** a combination of apparatus in which a refrigerant is circulated for the purpose of extracting heat.

1115. **"Rupture Member,"** a device which will automatically rupture at a pre-determined pressure.

1116. **"Stop Valves,"** a shut-off valve installed in a pipe for controlling the flow of refrigerant.

1117. **"Sealed Unit,"** one which operates without stuffing boxes or which does not depend upon contacts between moving and stationary surfaces for refrigerant retention.

1118. **"Unit System,"** one which can be removed either with or separately from the space refrigerated without disconnecting any pipes.

Section 1200—Classification of Refrigerating Systems

1201. Refrigerating systems shall be classified either according to the total weight of refrigerant contained in or required for their satisfactory operation.

1202. The Seller shall furnish the Purchaser of a Class "A," "B" or "C" system with a letter or card for posting in the Machinery Room, designating the correct amount and kind of refrigerant required for the system.

1203. The maker shall mark the quantity and kind of refrigerant used on the nameplate of every Class "D" system.

1204. A Class "A" system is one containing one thousand pounds (1,000 lbs.) or over of refrigerant.

1205. A Class "B" system is one containing from one hundred pounds (100 lbs.) to one thousand pounds (1,000 lbs.) of refrigerant.

1206. A Class "C" system is one containing from twenty pounds (20 lbs.) to one hundred pounds (100 lbs.) of refrigerant.

1207. A Class "D" system is one containing not more than twenty pounds (20 lbs.) of refrigerant.

Section 1300—Limitations As To Use

1301. Sealed electrically operated air cooled unit type systems, containing a total of not over one pound (1 lb.) of refrigerant and volatile hazardous substance may be located without restriction.

1302. Sealed unit type systems containing not over five pounds (5 lbs.) of refrigerant unless placed in a Machinery Room are prohibited in theatres; exhibition and assembly halls above the first floor; wards of hospitals; asylums; entrances and exits of public buildings.

1303. All apparatus of installations except those covered by 1301 and 1302 in public buildings as/and theatres; exhibition, dance and assembly halls; hospitals; asylums; police stations; underground waiting rooms of passenger stations and schools; shall be placed in a separate Machinery Room from which any outside refrigeration shall be supplied by the indirect method. If a flammable or noxious refrigerant is used, the Machinery Room shall have no connection with the other parts of the building, and shall be entered and ventilated from the outside only.

1304. Refrigerant equipment of Class "A", "B" and "C" systems employing an irritant or flammable refrigerant and using the direct method of refrigeration are restricted to the first floor and basement of: business buildings, combination business and residence buildings, multiple residence and apartment house buildings for more than two families and to the space occupied by single tenant, unless the premises are used exclusively for ice-making and/or refrigeration and/or chemical purposes. Elevator shafts and stair wells extending into that portion of the building used as a Refrigerating Machinery Room, shall be enclosed with tight walls and close fitting self-closing doors.

1305. Systems on temporary exhibition in halls which are more than two stories in height shall be limited to the unit/type containing not more than ten pounds (10 lbs.) of refrigerant.

Section 1400—Design, Installation and Testing

1401. Every part of a refrigerating system, except pressure gauges and control mechanism, shall be designed to withstand safely and without injury, the following required minimum test pressures:

Refrigerant Used	High Side Part	Low Side Part
Carbon Dioxide	1,500	750
Ethane	1,100	550
Ammonia	300	150
Propane	250	125
Methyl Chloride	150	80
Sulphur Dioxide	100	50
Iso-Butane	100	50
Bufane	75	35
Ethyl Chloride	50	25
Methylene Chloride	15	15
Acetylene Dichloride	15	15

1402. Systems which are assembled and piped in place shall be tested after installation and proved tight before being operated. A dated and signed declaration of such test shall be posted in the Machinery Room or the test data shall be stamped on the name-plate.

1403. Makers of unit systems shall stamp the test pressure on the nameplate.

1404. All pipe fittings and valves shall be those suitable for refrigeration-installations for the refrigerant intended.

1405. All piping, liquid receivers or vessels for Class "A", "B" and "C" systems containing the refrigerant, shall be supported on or by strong and durable materials.

1406. Liquid level gauge glasses, except those of the bull's eye type, shall have automatic closing shut-off valves and such glasses shall be adequately protected against injury by slotted metal casings.

1407. Every system which may be charged after installation shall have the charging connection located on the low pressure side.

Section 1500—Safety Devices

1501. Pressure relief valves, pressure limiting devices and rupture members shall be made of suitable materials for the re-

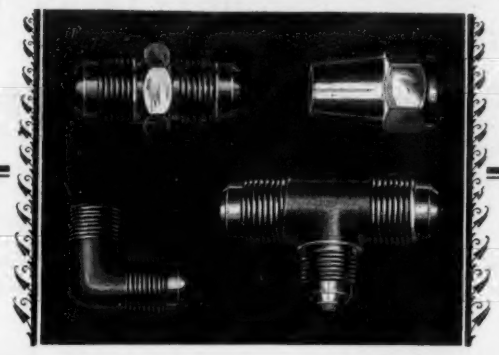
(*Concluded on Page 6*)

Star Salesmen Win Trip to Detroit

Seven star salesmen, the prize-winning team of the Baltimore-Copeland Refrigeration Co., of Baltimore, Md., were guests of the Copeland factory in Detroit the last week in June.

The men were luncheon guests of W. D. McElhinny, vice president in charge of sales, at the Detroit Boat Club. They were taken through the Copeland plant by Edward Barger, service manager, and were also shown the silica gel type of commercial refrigeration in the silica gel exhibit in the Franklin building, East Jefferson Ave., at McDougall. John M. Dierkes, general sales manager for the Baltimore Copeland Refrigeration Co., accompanied the men.

Those who made the trip in addition to Mr. Dierkes, were: L. E. Engle, H. G. Nicholson, E. T. Lawrence, W. B. Staley, Dan Kelly, J. R. Lyle and P. S. Stirling. Two more of the Baltimore Copeland's salesforce, both of them women, also won honors, but took their prizes in cash instead of the trip to Detroit.



PIPE *and* TUBE
FITTINGS

Made From Brass Forgings

For many years we have specialized in the manufacture of brass fittings, in small sizes, for connecting brass and copper tubing.

We are now producing similar parts made from BRASS FORGINGS—including a full line of forged nuts. These fittings are especially designed to meet the requirements of Iceless Refrigerator Manufacturers for fittings of a superior type. These fittings will not leak gas, air or liquids under mechanical pressure. They have the compact grain structure, high tensile strength and smooth, flawless surfaces found only in forgings. Our forged fittings are accurately machined, carefully inspected and individually wrapped and labeled.

Send a sample or blue-print for quotations on parts of a special nature. Catalogue No. R-30, showing our complete line of standard fittings, will be mailed on request.

COMMONWEALTH BRASS CORPORATION
DETROIT 5781-5835 COMMONWEALTH AVE. **MICH.**

National Advertising Helps

Establish the High Quality of Monel Metal Products

The Literary Digest
THE SATURDAY EVENING POST
4,500,000
CIRCULATION
The Saturday Evening Post with more than three million circulation and The Literary Digest with more than a million and a half carry the Monel Metal story into most of America's worthwhile homes.
INDUSTRY HAS ADOPTED MONEL METAL
The equipment in your kitchen can be as bright as this lustrous Monel Metal Fountain
MONEL METAL
A PRODUCT OF THE INTERNATIONAL NICKEL CO. (INC.)

Illustrated is a typical Monel Metal advertisement. Note that the advertisement recommends the use of Monel Metal for kitchen metal surfaces.

Your Customers Know the Value of Monel Metal

Monel Metal advertising helps salesmen and dealers who "push" Monel Metal trimmed refrigerators. It helps to educate refrigerator buyers—by telling them that Monel Metal is used only in quality products and that a Monel Metal trimmed refrigerator can therefore be depended upon to furnish a life-time of service.

The highest grade electric refrigerators are trimmed with this attractive, corrosion-resisting alloy. This fact plus the additional weight of national advertising, indicates to your customers that "quality trim denotes quality throughout."

When you mention Monel Metal in your own sales talks and advertising, you profit by your customers' familiarity with this nationally-advertised product.

Send for Details of Monel Metal Advertising Plans

Monel Metal is a technically controlled Nickel-Copper alloy of high nickel content. It is mined, smelted, refined, rolled and marketed solely by The International Nickel Company. The name "Monel Metal" is a registered trade mark.

MONEL METAL

THE INTERNATIONAL NICKEL COMPANY (INC.) — MONEL METAL — 67 WALL STREET, NEW YORK, N. Y.

Pacific Gas & Electric Co. Dramatizes Electrolux

NATIONAL SAFETY CODE

(*Concluded from Page 5*)

frigerant employed and shall be constructed and set to prevent the pressure exceeding the test pressure.

1502. The size of relief valves shall be as follows:

Capacity of System	CO^2 and Ethane No. Req.	Size	Other Refrigerants No. Req.	Size
Up to 1,000 lbs.	1	½ in.	1	½ in.
1,000 to 1,800 lbs.	1	½ in.	1	¾ in.
1,800 to 3,000 lbs.	1	½ in.	1	1 in.
3,000 to 5,250 lbs.	1	½ in.	1	1¼ in.
5,250 to 7,500 lbs.	1	¾ in.	1	1½ in.
7,500 to 13,500 lbs.	1	1 in.	1	2 in.
13,500 to 27,000 lbs.			2	2 in.

1503. Where rupture members are permitted and used the equivalent area of the relief valve specified must be provided.

1504. Fusible plugs shall have a maximum fusing point of 280° F. The free opening shall be one-sixteenth inch (1/16") in diameter for one hundred pounds (100 lbs.) or less of refrigerant.

1505. All Class "A", "B" and "C" systems shall be provided with a pressure limiting device to stop the action of the pressure imposing element at a pressure less than 90% of the setting of the pressure relief on the high pressure side.

1506. Each compressor or generator of a Class "A" or "B" system shall be protected by a pressure relief valve connected into the high pressure side between the main stop-valve and the compressor or generator to relieve excessive pressure into the low pressure side of the system or to the atmosphere.

1507. The low pressure side of every Class "A" or "B" system shall be provided with a hand-operated relief valve for discharging the refrigerant in case of fire, either to the atmosphere or to a suitable body of water.

1508. The hand-operated relief valve shall be located outside the Refrigerating Machinery Room, or shall be capable of operation from the outside.

1509. A rupture member may be substituted for the relief valve in CO_2 systems or systems operating below atmospheric pressure.

1510. Shell type apparatus such as liquid receivers, condensers, evaporators, liquid separators and absorbers of Class "A", "B" and "C" systems, which can be shut off by stop-valves shall each be equipped with a pressure relief valve, discharging as hereinafter provided.

1511. No stop valve shall be located between a pressure relief device or pressure limiting device and the part of the system protected thereby, unless two devices of required size are used and so arranged that only one can be cut off for repair purposes at any one time.

1512. Class "C" and "D" systems unless so constructed that when subjected to an abnormal outside temperature such as that generated in a fire, they will not burst due to the expansion of the refrigerant, are to be protected by a pressure relief device.

1513. All water cooled Class "C" and "D" systems so constructed that the pressure imposing element is capable of producing a pressure in excess of the test pressure and containing more than twelve pounds (12 lbs.) of refrigerant, shall be provided with a pressure limiting device to stop the action of the pressure imposing element if the water supply fails.

1514. Where a noxious or flammable refrigerant is used in Class "A", "B" or "C" systems, the discharge from the relief valves on the high pressure side must be conducted to the outside atmosphere or into that part of the low pressure side protected by the low pressure relief valve. The discharge to the outside atmosphere from either the high or low pressure side, must be not less than twelve feet above the grade. The discharge pipe shall be not less than the size of the relief valve outlet. The discharge from more than one relief valve may be run into a common header, the area of which shall be equal to the areas of the pipes connected thereto. The outlet shall be turned downward.

1515. Where ammonia is used in a Class "B" or "C" system, the discharge from relief valves may be into a tank of water which shall be used for no purpose except ammonia absorption. At least one gallon of fresh water shall be provided for every pound of ammonia contained in the system. The water used shall be prevented from freezing without the use of salt or chemicals.

1516. Where special emergency relief devices, ammonia mixers, etc., are required by the Fire or other Departments, they shall be installed in accordance with the Departments' regulations.

Section 1600—Open Flames and Electrical Equipment

1601. No fire, flame or arc light will be permitted in a Class "A," "B" or "C" Refrigerating Machinery Room, in which a flammable refrigerant is used.

1602. No major electrical equipment except the motors and switchboards necesary to operate the machinery shall be permitted in a Class "A" or "B" Refrigerating Machinery Room using a flammable refrigerant. All starting equipment including switches, automatic starters, and the like shall be of the oil immersed or enclosed type.

1603. All Class "A" and "B" systems using a flammable refrigerant shall have an emergency switch controlling all of the electrically operated refrigerating machinery or the remote control of such a switch located outside of the Refrigerating Machinery Room where it can be quickly and speedily reached and operated in cases of necessity.

Section 1700—Supervision

1701. Every Class "A", "B" and "C" refrigeration system shall be in charge of a person familiar with the apparatus and its operation.

1702. Any machine on exhibition in Public Buildings shall when operating, be in charge of a makers' or owners' representative who shall be responsible for its safe operation.

Section 1800—Machinery Rooms

1801. The location, materials of construction, exits, ventilation, lighting, etc., shall be governed by the authorities having jurisdiction.

Section 1900—Operating Precautions

1901. At least two helmets or masks shall be provided with a Class "A" system which operates above atmospheric pressure.

1902. At least one helmet or mask shall be provided with a Class "B" system in which ammonia, sulphur dioxide or other irritant refrigerant is used.

1903. Only helmets or masks that have been approved by the United States Bureau of Mines as suitable for the refrigerant employed shall be used, and they shall be kept in operative condition in an easily accessible case or cabinet located immediately outside the Refrigerating Machinery Room.

1904. In all Refrigerating Machinery Rooms of Class "A", "B" or "C" systems, there shall be permanently and conspicuously posted the following information:

The names and addresses of the engineers or operators in charge.

The location of the nearest fire alarm box.

The name and address of a physician to be called in case of emergency.

Instructions for shutting down the plant in case of emergency.

1905. Class "A" and "B" systems shall have the name of the refrigerant painted or affixed in a permanent manner to the main parts and piping.

1906. The letter or card furnished by the Seller designating the quantity of refrigerant required for the system shall be conspicuously posted in the Refrigerating Machinery Room.

1907. Refrigerant not contained in the refrigerating system shall be stored in cylinders conforming to the regulations prescribed by the Interstate Commerce Commission for the transportation of such refrigerant or containers of equal strength.

1908. When the refrigerant is withdrawn from a system it shall be discharged only into a suitable absorbent or storage container. No refrigerant should be permitted to escape into the Refrigerating Machinery Room.

1909. Containers shall not be connected to the system except during period of charging or withdrawing the refrigerant.

1910. No receiver, container or cylinder should ever contain a greater proportion of liquid than is allowed in shipping containers.

1911. Tightening of bolts or flanged joints when under pressure should be avoided.

1912. In testing with air pressure care should be taken to prevent the temperature at any point rising above one hundred and thirty (130) degrees Fahrenheit.

Mueller

forged Fittings

For Mechanical Refrigeration

FORGED UNION NUT

This nut is made to meet the demand for an exceptionally strong fitting.

All Mueller Electric Refrigerator Fittings are especially designed to meet the requirements of mechanical refrigeration work.

They are *forged*—*seepage* is impossible.

FORGED ELBOW

A complete line of fittings are carried in stock—always, for quick shipment.

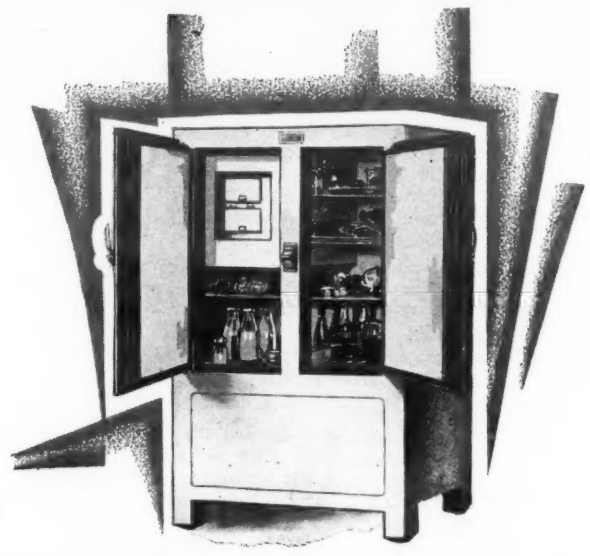
Mueller fittings can be supplied to suit your special requirements

Send us samples or blue prints for quotation

Mueller Brass Co.

PORT HURON, MICH.

THREE GENERATIONS OF BRASS MAKING



There are *two* systems in every "Electric" Refrigerator

THERE is, first, a refrigerating system; and second, an electric system to provide power for operating it.

The efficiency records of Welsbach are due to a refrigerating system which sets up *ideal internal conditions* for creating refrigeration in the *easiest, simplest way.*

A refrigerant, Alcozol, which functions under low pressure, was developed by the Welsbach laboratories. It has no disagreeable odor; does not lose its efficiency with use; does not rust or corrode the system even when moisture is present; may even be held in the hand without harm.

A slow speed compressor having only three simple moving parts, flooded with lubricant, provides the twenty pounds pressure which is normal for the system. A liquid seal prevents leakage of either refrigerant or lubricant.

The entire compressor mechanism is so simple it can be completely disassembled, reassembled and the system put into operation again in less than twenty minutes.

Welsbach Refrigeration operating at Low Pressure and Slow Speed, has a velvet-smooth action under its light load. It eliminates objectionable vibration, runs with amazing quietness and reaches its peak efficiency during the hottest, most trying weather conditions. As would be expected, it is extremely economical of electric current. Welsbach Co., 307 Ellis St., Gloucester City, N.J.

PRESSURE CHART	
Welsbach	20 lbs.
Other Systems	?

Welsbach operates under only twenty pounds pressure. This load is so light, so easily carried by the simple Welsbach System that vibration, noise, and wear-and-tear are practically eliminated.

Welsbach Cabinets and Equipment—from foundry to finished product—made in the same plant

Welsbach

Low Pressure Refrigeration

WELSBACH LOW PRESSURE REFRIGERATION IS ALSO MADE FOR THE APARTMENT AND STORE

TENTATIVE SAFETY CODE PROPOSED FOR CITY OF CLEVELAND

Public Hearing Held June 19—Changes Recommended by Engineers

THE complete text of the tentative regulations governing the installation, operation and inspection of refrigeration systems now being considered by the city of Cleveland, Ohio, is given below. It should be understood that this original draft will be subject to revision, one public hearing having already been held in Cleveland on June 19. Changes recommended by engineers representing manufacturers of machines under one ton capacity are given in an adjoining column.

Sec. 2743.

This code shall apply to every refrigerating system employing substances which are vaporized and liquified or compressed and expanded in their refrigerating cycle and is intended to provide for the safe installation, operation and inspection of refrigeration systems or the storage of refrigerants.

2. It is understood that existing safety regulations as prescribed by the Ohio Code for welding, building, stairways, exits, belts, moving machinery, steam and electric uses, and anything in such plants not specifically covered by this code, are covered by their respective rules and regulations in refrigerating systems as fully as if specified in this code.

Sec. 2743-A. Definitions.

1. Brine, any liquid which having been cooled by the refrigerating system is used for the transmission of heat.

2. Buildings of the various classes are for the purpose of this section, such as are defined by the Building Code of the City of Cleveland, under Sec. 1148—First Grade Public Buildings; Sec. 1149—Second Grade Quasi-Public Buildings; Sec. 1150—Third Grade Tenement Houses and Club Building; Sec. 1151—Fourth Grade Dwellings. Any other buildings not included in the above named classes, shall be considered a special case and will require a special ruling by the Commissioner of the Division of Smoke Inspection.

3. Capacity—The "capacity" of a refrigerating equipment is its rating in standard tons of refrigeration per twenty-four (24) hours.

4. Classifications—The total amount of refrigerant common to a system operating through one or more evaporators or compressors, shall determine its class.

5. Class "A" system is a system containing one thousand (1,000) pounds or over of refrigerant.

6. Class "B" system is a system containing less than one thousand (1,000) pounds of refrigerant and over twenty (20) pounds.

7. Class "C" system is a system containing less than twenty (20) pounds of refrigerant.

8. Container—a cylinder for the shipment of refrigerant constructed to conform to the regulations of the Interstate Commerce Commission.

9. Direct refrigeration, a system in which the refrigerant is circulated to the substance or space refrigerated, or to a medium such as air, which is then circulated to the substance or space to be cooled.

10. Flammable refrigerant, any refrigerant which will burn or explode when mixed with certain proportions of air. (See Table I.)

11. Fusible plug, a device having a predetermined temperature fusible member for the relief of pressure.

12. Hydrocarbon refrigerants, any refrigerant of the hydrocarbon class.

13. Indirect refrigeration, a system in which brine cooled by the refrigerant is circulated to the substance or space refrigerated.

14. Irritant refrigerant, any refrigerant which when breathed is harmful or pernicious. (See Table I.)

15. Liquid receiver, a vessel permanently connected to a system by inlet and outlet pipes and in which the liquid refrigerant collects.

16. Machinery room, a room in which is located a refrigerating system containing refrigerant, but not including expansion coils when located in cold storage rooms or expansion coils when located in refrigerator boxes.

17. Parts of the system are the compressor, generator, condenser, absorber, receiver, shell type or tube type apparatus, pipes, vessels, or other parts, containing refrigerant.

18. Pressure imposing element, that apparatus which draws the refrigerant from the low pressure or high temperature side of the system.

19. Pressure limiting device, a pressure or temperature responsive mechanism for automatically stopping the operation of the pressure imposing element at a pre-determined pressure. (See Table II—Col. 4.)

20. Pressure relief device, a pressure relief valve, a rupture member, fusible plug or other approved device for relieving the pressure.

21. Pressure relief, a valve held shut by a spring or other means to automatically relieve pressure in excess of its setting.

22. Rating—the standard rating of a refrigerating machine, using liquifiable vapor, is the number of standard commercial tons of refrigeration it performs under the following adopted refrigerant pressures, which shall be measured outside of the pressure imposing element in the inlet and outlet pipes respectively at some distance not to exceed ten (10) feet from the pressure imposing element.

a. The inlet pressure is that which corresponds to a saturation temperature of five degrees (5°) F. (—15° C.).

b. The outlet pressure is that which corresponds to a saturation temperature of eighty-six degrees (80°) F. (30° C.).

c. Standard ton of refrigeration is two hundred and eighty-eight thousand (288,000) B. t. u.

d. Commercial tons—the standard commercial ton of refrigeration is at the rate of two hundred (200) B. t. u. per minute.

23. Refrigerant is the chemical agent other than brine used to produce refrigeration.

24. Refrigerants—Table I.

25. Rupture member, a device that will rupture at a predetermined pressure.

26. System—A "refrigerating system" is an apparatus in which a refrigerant is circulated (including its source of energy in so far as it affects its safety of operation) for abstracting heat from a body at one temperature and transferring it to another at a higher temperature.

27. Unit type refrigerating system is one which is completely manufactured, assembled and charged with refrigerant prior to delivery to the purchaser.

28. Working pressure shall be understood to mean the maximum allowable working pressure (see Table II—Col. 4).

Sec. 2744—Permits, Licenses, Certificates and Inspection (see Sec. 2750 for Fees).

1. Permits. It shall be unlawful for any person, firm or corporation to install or erect a refrigerating system in the city of Cleveland until an application has been filed and plans and specifications of the same shall have been submitted and approved by the Commissioner of Smoke Inspection, and a permit issued for the erection of such refrigerating system, which permit shall be posted at the site before work is begun. If for any reason, the installation of a plant for which a permit has been issued is not completed within six months after the date of the permit, such permit shall become null and void, and the fee forfeited.

2. Exceptions. No permit or certificate will be required for a class C system when installed or used in buildings of the 3rd or 4th grade, as defined in the Building Code of the city of Cleveland. (See definition No. 2.)

Sec. 2745.

1. Certificates. After the erection or installation of a refrigerating system which required a permit in accordance with the provisions of this subdivision, an inspection will be made by a representative of the Division of Smoke Inspection of the City of Cleveland. If and when the refrigerating system is found to be in satisfactory condition a certificate will then be issued for the operation of this system, to cover the period to the next annual inspection. Until such certificate is issued, it shall be unlawful for any person or persons, firm or corporation, to operate or cause to be operated such refrigerating system.

2. Before issuing a certificate each new refrigerating system in class A and B (except pressure gauges and control mechanism) shall be tested to the pressures set forth in Table II, columns 1, 2 and 3. A dated declaration of such test, signed in duplicate by the tester who represents the person or persons installing the system and countersigned by a witness representing the Division of Smoke Inspection, shall be posted in the machinery room and a copy of same delivered to the Smoke Department. Such test or tests shall be made at no expense to the City of Cleveland.

Sec. 2746.

1. Inspection. All Class A and Class B refrigerating systems located in the City of Cleveland, as require certificates shall be inspected not less than once each year by or under the direction of the Commissioner of the Division of Smoke Inspection, and if found in proper condition a renewal certificate shall be issued permitting the operation of such refrigerating system for the ensuing year, and unless such certificate is issued it shall be unlawful to operate the refrigerating system.

2. Any refrigerating system which at any time may appear to have been subjected to excessive strains either internally or externally or which shows excessive corrosion of any of its parts or which may appear to have been weakened by any other cause, shall at the discretion of the Commissioner of Smoke Inspection be subjected to a test as provided for in paragraphs 3 and 4 of this section. Should such system be found unsafe for further operation the certificate previously issued may be withdrawn and cancelled and such plant shall not be operated until repairs shall have been made and a new certificate issued in accordance with paragraphs 3 and 4 of this section.

3. All plants embraced within the provisions of this subdivision shall be open to inspection at all reasonable times by any person authorized by the Commissioner of the Division of Smoke Inspection.

4. No refrigerating system shall be maintained or operated employing refrigerants other than those specified in this subdivision (see Table II) without a permit issued upon such conditions, consistent with the provisions of this article as are deemed necessary by the Smoke Commissioner in the interest of public safety.

5. Only the refrigerant specified in the original permit shall thereafter be used in the system.

6. Refrigerating systems to which these provisions cannot be applied, may be installed, maintained and operated subject to such conditions as are deemed necessary by the Smoke Commissioner.

Sec. 2747.

1. Licenses. It shall be unlawful for any person to operate or be in charge of a refrigerating system until such person shall have passed satisfactorily an examination by the Commissioner of Smoke Inspection, or his agent, and a license issued signifying that such person is competent to discharge the responsibilities to be undertaken. An engineer's license issued under the laws of the State of Ohio shall be considered evidence of competency and will be accepted as the equivalent of a license without other examination.

2. Licenses shall be issued for the term of one year and may be renewed at the discretion of the Commissioner either with or without an examination, if applied for within ten (10) days before the date of expiration.

3. Licenses may be revoked at any time at the discretion of the Commissioner of Smoke Inspection for incompetency or negligence.

4. Licenses apply only to such refrigerating system or systems as may be installed at the given address at the time of the original examination.

5. Either oral or written examinations may be given except that for any class "A" system a written examination in English shall be given.

6. No class A or class B refrigerating system shall be operated at any time day or night in any building except under the personal supervision direction or control of either a person who holds a stationary engineer's license under the laws of the State of Ohio, or a person who has obtained from the Smoke Department a certificate of qualification to operate such a system. **Exception**—Where the system contains not more than 100 pounds of refrigerant and is fully automatic, a qualified operator or engineer will be required only during the one watch or shift.

Sec. 2748—Permissible Locations.

1. Direct Refrigeration. Class A or Class B systems shall not be used in any building, outside of the refrigerating machinery room. The exceptions to this rule may be as follows:

a. In building used exclusively for commercial ice making or for refrigerating purposes or both.

b. When not carried above the first floor in building of first and second grade.

c. In the business section of a third or fourth grade building when not carried above the first floor.

2. No brine shall be used in any brine circulating system that will generate flammable vapor at a temperature below 100° Fahrenheit when tested in a Tagliabue open cup tester, and no refrigerant shall be used as a brine.

3. No class "A" system using an irritant or flammable refrigerant shall be installed or maintained in any building above the first floor level unless such building is used exclusively for ice making or refrigerating purposes.

(*Concluded on Page* 14)

PROPOSED CHANGES IN CLEVELAND CODE

Following is a summary of the action on the proposed Cleveland code taken at the informal meeting of western manufacturers held in Detroit, Friday, June 29:

Endorsement of the motion presented by Fremont Wilson at the National Code meeting held in New York requesting municipal authorities to hold action on local regulations in abeyance pending the adoption of the National refrigeration code.

The following changes in the Cleveland were recommended for consideration in the event that it is not deemed desirable to await the final adoption of the municipal code.

That a multiple system be defined as one which irritates the respiratory tract.

That a hydro-carbon refrigerant be defined as one which is composed entirely of hydrogen and carbon.

That a unit system be defined as one which is a combination of a refrigerating system and cabinet on a common base which can be moved without disconnecting any refrigerant containing carbon.

That a remote system be defined as one which is composed of a pressure-imposing element and an evaporating element connected in such a manner that the two elements can not be removed from the building without disconnecting pipes.

That a multiple system be defined as one which is a remote system in which two or more evaporators in separate cabinets are connected to a pressure-imposing element.

That a sealed unit be defined as one which does not depend upon moving contacts for refrigerant retention.

That table I be eliminated from the code, or, at least, checked for accuracy and that the terms, "explosive, inflammable, irritant, and poisonous," be made definite.

That section twenty-four be removed.

That the multiple system be permitted with proper mechanical protection and under proper governmental inspection.

That the multiple system be installed with an allowable maximum of 100 pounds of refrigerant in any one refrigerating system under classifications C. or D.

That test pressures and pressure of limiting devices in table two be changed as follows:

	Col. 1	Col. 4	Col. 5
Methyl Chloride	180	180	230
Sulphur Dioxide	135	150	200
Iso-butane	130	140	160
Butane	110	125	150
Ethyl Chloride	50	60	75

TABLE I.
Refrigerants

No.	Name	Formula	Explosive	Flammable	Irritant	Poisonous	Solubility in Water at 70° F. Parts in 100
1	Carbon Dioxide	CO^2	No	No	No	No	90 at 20° C.
2	Ethane	CH^3CH^3	Yes	Yes	No	No	Slightly Soluble
3	Ammonia	NH^3	No	No	Yes	Yes	About 50
4	Propane	$CH^3CH^2CH^3$	Yes	Yes	No	No	6.5 at 18° C.
5	Methyl Chloride	Ch^3Cl	—	Yes	Yes	Yes	400
6	Sulphur Dioxide	SO^2	No	No	Yes	No	4730 at 60° F.
7	Iso-butane	$(CH^3)^2CHCH^3$	Yes	Yes	—	—	Insoluble
8	Butane	$CH^3CH^2CH^2CH^3$	Yes	Yes	No	No	Insoluble
9	Ethyl Chloride	C^2H^5Cl	—	Yes	No	No	Slightly soluble
10	Dichlormethane	CH^2Cl^2	—	—	No	Yes	
11	Dichlorethylene	CHCl.CHCl	Yes	Yes	—	No	
12	Trichlorethylene	$CHCl:CCl^2$	Yes	No	—	—	

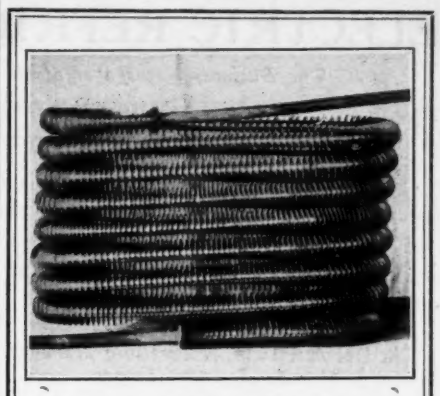
ATTENDANCE AT CODE MEETING IN NEW YORK

(*Concluded from Page* 1, *Column* 4)

C. K. Michaels, Bureau of Fire Prevention, Room 1100, Municipal Bldg., New York City.
H. E. Newell, Engr., National Board of Fire Underwriters, 85 John St., New York City.
Alfred B. Heiser, American Can Co., 120 Broadway, New York City.
C. W. Rulon, Underwriters Laboratories, 109 Leonard St., New York City.
Fred C. Zeisberg, E. I. duPont de Nemours & Co., Development Dept., Wilmington, Del.
R. F. Massa, 1165 Park Ave., New York.
F. R. Fetherston, secy-treas., Compressed Gas Mfrs. Ass'n., 120 W. 42nd St., New York City.
H. D. Edwards, 30 East 42nd St., New York.
Walter F. Jones, Brunswick-Kroeschell Co., New Brunswick, N. J.
H. M. Williams, Frigidaire Corp., Dayton, O.
J. G. De Remer, Savage Arms Corp., 100 E. 42nd St., New York City.
H. Harrison, gen. sales mgr., Brunswick-Kroeschell Co., New Brunswick, N. J.
Fred Harvey, General Electric Co., 120 Broadway, New York City.
Stephen Bennis, United Electric Light & Power Co., 130 E. 15th St., New York City.
W. W. Murray, Research Engr., c/o Bldg. Managers & Owners Assoc., 220 Broadway, New York City.
J. B. Churchill, Ice Master Co., 1043 Grand Central Term., New York City.
Glenn Muffly, Copeland Products, Inc., 630 Lycaste, Detroit, Mich.
Lewis A. De Blois, National Bureau of Casualty & Surety Underwriters, 1 Park Avenue, New York City.
Howard E. Blood, pres., Norge Corporation, Detroit, Mich.
E. T. Williams, Servel, Inc., 51 E. 42nd St., New York City.
Wm. B. White, New York Board of Fire Underwriters, 85 John St., New York City.
L. S. Keilholtz, Frigidaire Corp., Dayton, O.
O. J. Smith, United States Casualty Co., 80 Maiden Lane, New York City.
F. E. Matthews, cons. engr., 216 Leonia Ave., Leonia, N. Y.
R. R. Leonard. American Society of Mechanical Engrs, 29 West 39th St., New York City.
H. M. Timmerman, General Electric Co., Cleveland, Ohio.
August Rathemacher, American Gas Association, 130 E. 15th St., New York City.
J. J. Donovan, General Electric Co., 530 Hanna Bldg., Cleveland, O.
A. H. Baer, Frick Company, 23 S. 52nd St., Philadelphia, Pa.

TABLE II
Pressures

Refrigerant	Column 1 Pressures to be Used in Testing High Pressure Side	Column 2 Low Pressure Side With Safety Valves	Column 3 Low Pressure Side Without Safety Valves	Column 4 Safety Devices to be Set to These Pressures Pressure Limiting Device	Column 5 Pressure Relief Device
Carbon Dioxide	1,500	750	1,000	1,300	1,400
Ethane	1,050	520	760	850	950
Ammonia	300	150	225	225	250
Propane	250	115	175	200	225
Methyl Chloride	155	80	120	125	120
Sulphure Dioxide	105	55	75	85	95
Iso-Butane	70	45	70	72	80
Butane	75	35	50	61	68
Ethyl Chloride	30	15	25	24	27
Dichloromethane	12	12	12	12	12
Dichloroethylene	12	12	12	12	12
Trichloroethylene	12	12	12	12	12



ROME CONDENSERS

are formed in any shape of one piece of seamless copper tubing, fitted with heavy gauge copper radiating fin. Rome condensers are five times as efficient as plain tubes

Rome-Turney Radiator Company
ROME, N. Y.

PEERLESS FLOODED TYPE EVAPORATORS
For use on either Methyl Chloride or Sulphur Dioxide.

The PEERLESS one-piece, galvanized casting cooling unit provides the quick freezing advantage of the direct expansion unit with the hold-over advantage of the brine tank. The entire casting is cored, and ice trays are placed directly over the boiling refrigerant, giving an exceptionally short "freezing time."
The entire surface of the unit is "cooling surface," available in maintaining correct refrigerator temperatures at a minimum power cost.
Shut-off valves are "flanged" to the float valve assembly, repairs and adjustments are made quickly with no trouble. A large capacity strainer is incorporated between the liquid shut-off valve and the "needle" valve. This can be removed and cleaned without loss of refrigerant.
Manufactured in sizes and cube capacities to meet every condition.

PEERLESS ICE MACHINE CO.
515 W. 35th St. CHICAGO, ILL.

SAVAGE
MERCURY
REFRIGERATION

THE NEW 2-3-4-HOLE SAVAGE MERCURY ICE-CREAM CABINETS—*SELF-CONTAINED*—ARE A WELCOME ADDITION TO THE SAVAGE LINE BECAUSE:—

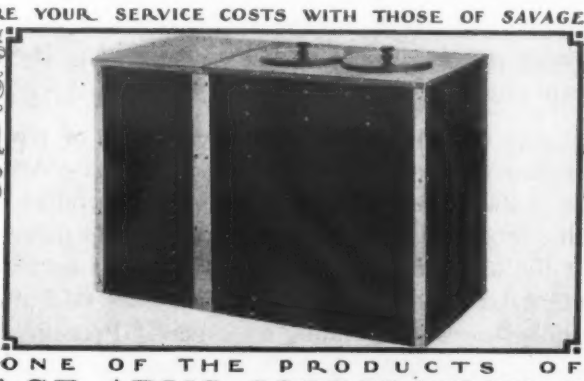
1. They meet the requirements for small, compact, portable unit cabinets, especially desired for Summer and temporary stops.
2. The only installation work is to plug into the nearest electrical outlet.
3. The freezing tanks in the cabinet contain the patented Savage jelly freezing mixture sealed in at the factory therefore requiring no addition of brine in the field. The valves are left open and permanently capped off so no installation work is required.
4. They can be easily removed and transported.
5. They are economical to buy—and use.
6. Because of their quiet, vibrationless operation they are admirably adapted to unit type installation.
7. In uninterrupted, efficient, economical operation, freedom from service, they uphold the enviable reputation won by the Savage Mercury Compressor.

This series of Savage quality cabinets includes 2-,3-and 4-hole single row sizes. The over-all dimensions (including the Savage No. 18 Type Methyl Chloride Compressor, which is rigidly fastened to the cabinet) are:

	Height	Width	Length
2-hole Single	30"	20¾"	45⅝"
3-hole Single	30"	20¾"	57"
4-hole Single	30"	20¾"	68¼"

There is one convincing way to prove the economy of Savage Cabinets

COMPARE YOUR SERVICE COSTS WITH THOSE OF *SAVAGE* USERS



Licensed under J. G. DeRemer Patents

ONE OF THE PRODUCTS OF
SAVAGE ARMS CORPORATION UTICA NEW YORK

HOUSEHOLD QUALITY SERVICE COMMERCIAL

HERRICK

THE ARISTOCRAT OF REFRIGERATORS
for
ELECTRIC REFRIGERATION

HERRICK REFRIGERATOR CO.,
1019 Cedar St. Waterloo, Iowa

ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Electric Refrigeration Industry

PUBLISHED EVERY TWO WEEKS BY

BUSINESS NEWS PUBLISHING CO.

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JULY 4, 1928

Complete the Association

EVENTS of the preceding week again emphasize the pressing need for an industry organization, truly representative in character, which may function in an orderly and authoritative manner in meeting a number of problems which threaten the future progress and prosperity of the industry. The continued delay in establishing an active and responsible organization is only encouraging the continuation of a guerrilla warfare between competitors, at the same time keeping the industry in a ridiculously helpless position in dealing with governmental authorities and other industries having related interests.

Without in any way questioning the sincerity of purpose of the chief engineers who have taken the initiative in negotiating with national, state and local authorities, in matters pertaining to safety regulations, we do not hesitate to say that the procedure is not only questionable but also highly dangerous to the future welfare of the industry. In the absence of a regularly-organized body, with duly-elected officers and properly-appointed committees, those who are acting informally and without proper industry authority are of necessity exposed to criticism, either just or unjust, regarding the results of their activities and the manner in which such results are achieved.

Suspicion has already been aroused, as might reasonably be expected, by the efforts of one executive to secure industry support in a matter of vital interest to his company when the same company has persistently refused to participate in any co-operative movement in the industry during the past two years. It is simply a matter of time until such leadership is challenged and the resultant division of opinion, stimulated by conflicting interests, is quite likely to precipitate an industry row which may take years to untangle.

The electric refrigeration industry, with all its youth, has little enough excuse for its failure to profit by the experience in other fields. It has not only refused to follow the course so clearly charted by innumerable co-operative movements, but it also rejected an opportunity to set a new record for industry accomplishment. Seldom, if ever, has a new industry had the benefit of so much money to serve its needs, so many high-calibered executives to guide its destinies, such a host of enthusiastic workers to do the job and a market of such vast potentialities.

In the field of co-operation particularly, the industry has had the benefit of experienced leadership. Great pains were taken to guide the industry past the pitfalls of competitive antagonism which has handicapped the progress of many other lines of business. Granting that the original plan was imperfect, at least an opportunity was afforded for the then-leading manufacturers to meet each other and become acquainted before they had become engulfed in the petty animosities which seem to be inherent in commercial competition.

There was one condition at that time, it is true, which represented an almost insuperable obstacle to a successful industry organization. Of the group, one company was in a position to dictate terms in most all efforts to arrive at a mutual understanding. Times there were when representatives around the table agreed among themselves regarding some detail of procedure only to have the action nullified by the negative vote of one company. The utmost patience would be indeed required to carry on a constructive program in the face of such a situation.

With the passage of time, however, a new balance of power has been struck in the industry, new influences are at work and conditions are far more favorable to the successful operation of a co-operative organization. Furthermore, the problems which were forseen in the distance are now an actuality. Not the least of these is the demand from numerous quarters that an agreement be reached as to what constitutes safe practice in the design and installation of refrigerating equipment. Pressure is now being exerted to force an agreement. If such agreement is not arrived at in a manner which will bear the light of publicity, its value will be neglible, to say the least.

Through the good offices of the National Electrical Manufacturers Association, a representative meeting was held in Detroit some weeks ago, at which the initial steps were taken for the formation of a Refrigeration Manufacturers Council. A carefully prepared constitution was adopted, dues established, officers elected—the organization to become operative when ten companies have signed the official document. Practically all of those present signified their intention of subscribing to the plan.

If the movement is being blocked by selfish interests, the industry is entitled to know the facts. Otherwise, no time should be lost in completing the association so that it may act and speak officially for the industry in important matters now hanging in the balance.

Detroit Distributor Presents Kelvinator In Effective Window Display

Perhaps the most outstanding feature of this Kelvinator display in the windows of the Dalrymple-Kelvinator Co., Detroit, is the attractive blue neon gas sign, which draws the attention of thousands of people passing by the store, located on one of the principal thoroughfares of the city.

The store faces on two streets and another sign duplicating the one shown above, faces the other street. An appropriate background with brilliant illumination makes this a most interesting display.

Refrigeration Machinery Association Shows Friendly Interest in Electric Machine Group

Members of Organization Devoted to Heavy Industrial Field Inquire Regarding New Movement

The Refrigerating Machinery Association
Suite 705 Park Building
23 South 52nd Street
Philadelphia, Pa.
June 25, 1928

Electric Refrigeration News
Detroit, Michigan

In one of your recent issues we noted that the Automatic Refrigeration Association, which held a meeting on April 10 at Detroit, had called another meeting on June 20 at the Hotel Statler, Detroit, Mich., and that the chief engineers of manufacturers of electric or gas units of one-ton capacity or less were invited to attend and participate in the activities of the new organization.

Several of the members of our association who manufacture equipment in the capacities stated had made up their minds to attend the meeting, but at the last minute learned that the meeting had been indefinitely postponed.

I would appreciate receiving any advice from you as to why the meeting was postponed and whether it is contemplated to hold a meeting at a future date and perfect the organization of this association.

Thanking you in advance for any information you can give me on the subject, I am

Very truly yours,
Fred Nolde, Secretary,

The Refrigerating Machinery Association
Suite 705 Park Building
23 South 52nd Street
Philadelphia, Pa.
June 27, 1928

Electric Refrigeration News
Detroit, Mich.

Would you be willing to send a copy of the May 9 issue of "Electric Refrigeration News" to the 23 members comprising our association? If so, I will send you a list of our members together with the name of the principal in each company to whom the paper is to be sent.

Our object in having this paper sent to our members is that that particular issue contains the report of the meeting of the Refrigeration Manufacturers Council and I think they all should be familiar with the meeting with the object of perhaps having some of them join that Council if they so desire.

Will you kindly advise me what the expense will be, if any, for complying with the above request?

Fred Nolde, Secretary.

WANTED: AIR COOLERS

An Editorial in the New York Times

Experiments to be conducted at the University of Michigan this summer in the operation and effectiveness of new devices for cooling houses will be watched with nation-wide interest. Despite the fact that until a few decades ago mankind relied on warm clothes and on open fires for heat in winter, the development of furnaces and other central heating devices has been so rapid that it is surprising so little inventive skill has been directed toward studying how to keep cool.

The principal movie houses, of course, have been the pioneers in the use of air-cooling systems for the comfort of the general public. But, strangely enough, "big business," which has devoted so much attention to the health and comfort of workers during recent years, and which has supported studies of experts to determine the optimum temperature and humidity for various types of work, has taken steps only to eliminate cold.

Most Americans refuse to admit that even in the Northern States our summer weather is usually tropical. If it is true that 68 degrees Fahrenheit is the ideal temperature for health and work, and if this is the mean sought in winter (but too often exceeded), why should not similar efforts be made to maintain it in buildings when the thermometer outdoors registers 80 to 90 degrees?

Color to Attract the Prospect

Display of Copeland and Seeger cabinets in color by the Pacific Gas & Electric Co., San Francisco, Calif. The central station co-operates with local dealers. The above display carries a sign referring those interested to the Arthur Dahl Co., across the street at 470 Sutter St.

FOREIGN SHIPMENTS OF ELECTRIC REFRIGERATORS

May Exports Reported by Bureau of Foreign and Domestic Commerce

Country	No.	Value
Azores & Madeira Islands	1	$ 540
Belgium	148	27,682
Denmark	82	11,567
France	54	9,511
Germany	72	14,023
Italy	88	14,710
Netherlands	125	25,081
Norway	13	2,615
Portugal	15	3,113
Spain	80	24,145
Switzerland	70	11,196
United Kingdom	473	41,829
Canada	2,402	377,814
Guatemala	2	1,039
Honduras	1	146
Panama	15	6,813
Salvador	15	3,705
Mexico	54	15,672
Newfoundland & Labrador	1	197
Bermudas	24	5,036
Barbados	1	380
Other British W. Indies	3	841
Cuba	79	22,244
Dominican Republic	11	2,303
Dutch West Indies	1	287
Haiti, Republic of	6	1,171
Argentina	34	4,179
Brazil	28	6,302
Chile	16	2,424
Colombia	64	15,075
Ecuador	3	512
Peru	14	2,883
Venezuela	10	2,486
Aden	5	948
Arabia	1	171
British India	260	42,673
British Malaya	11	1,898
Ceylon	3	662
China	102	21,095
Hong Kong	29	6,188
Japan	8	2,151
Philippine Islands	56	12,667
Syria	1	100
Turkey in Asia	9	1,377
Australia	66	13,113
French Oceania	1	26
New Zealand	16	4,543
British East Africa	24	3,446
Union of South Africa	31	6,454
Egypt	29	5,927
Canary Islands	4	904
TOTAL	4,661	$871,864

Manufacturers of Ice Plant Machinery Well Organized

Standing Committees Deal with Ethics, Standardization, Cost Accounting, etc.

AT the organization meeting of the Refrigeration Manufacturers' Council which was held in Detroit, May 9, in response to an invitation issued by A. E. Waller, managing director of the Natonal Electrical Manufacturers Association, attention was directed to the desirability of setting up the new organization in such a manner as to avoid any conflict with the established Refrigeration Machinery Association. S. B. Carpender of the Brunswick Kroeschell Co., who was present at the meeting, expressed the opinion that a number of the manufacturers of ice-making machinery would be interested in affiliating with the new Council.

It was agreed that the Refrigeration Manufacturers' Council should include company members manufacturing refrigeration equipment of one-ton capacity and under. It was pointed out that several of the manufacturers of heavier machinery are contemplating the marketing of smaller units and also that the manufacturers of electric refrigeration units are gradually tending toward the development of larger sizes. Because of this movement in the direction of overlapping interest, hope was expressed at the meeting that friendly relations might be established between the organization for the best interests of all concerned.

Elsewhere in this issue will be found communications from Fred B. Nolde, secretary of the Refrigerating Machinery Association, 705 Park Building, 23 South 52nd Street, Philadelphia, Pa., requesting information regarding recent developments in the organization of the electric and gas machine manufacturers and indicating the interest of his association in the progress of the new movement.

In order that readers may be informed regarding the set-up and personnel of the Refrigeration Machinery Association, the following lists of members and committees and the aims of the association are published in full.

Refrigerating Machinery Association Members

Principals and Alternates

American Engineering Co. Aramingo and Cumberland Sts., Philadelphia, Pa.	J. G. Worker, Asst. to President W. V. Sauter, Vice-President H. I. Lewis, Mgr., Refrig. Dept.
Automatic Refrigerating Co. Hartford, Conn.	H. B. Carey, President M. F. Owens, Sec. & Gen. Mgr.
Baker Ice Machine Co. Omaha, Nebraska.	J. L. Baker, President C. A. Baker, Purchasing Agent Charles Knox, Vice-President and Manager of Erection
Ball Ice Machine Co. 126 Choteau Ave., St. Louis, Mo.	L. B. Von Weise, President L. L. McCoy, Vice-President
Brunswick-Kroeschell Co. New Brunswick, N. J.	S. B. Carpender, 1st Vice-Pres. A. H. Goelz, 2nd Vice-Pres., Chicago, Ill. R. A. Kroeschell, Secretary Walter Jones, Manager of Mfg.
Carbondale Machine Co. Carbondale, Pa.	Henry Torrance, President E. M. Holcombe, Vice-President R. G. Ewer, Sales Manager
Carrier Engineering Corp. 750 Frelinghuysen Ave., Newark, N. J.	W. H. Carrier, President J. J. Lyle, Treas. & Gen. Mgr. E. T Murphy, Vice-Pres. & General Sales Manager.
Creamery Package Mfg. Co. 1243 W. Washington Blvd., Chicago, Ill.	O. P. Heller, Mgr. Ice Mach. Dept. G. H. Echler, Assistant Manager
De La Vergne Machine Co. 910 E. 138th Street, New York, N. Y.	F W. Gay, Vice-Pres. & Gen. Mgr.
Dersch, Gesswein & Neuert, Inc. 4845 W. Grand Ave., Chicago, Ill.	H. W. Neuert, General Manager F. B. Gesswein W. F. Neuert, Secretary
Frick Company, Inc. Waynesboro, Pa.	Ezra Frick, President A. H. Baer, Sales Manager D. Norris Benedict, Asst. Gen. Mgr.
Howe Ice Machine Co. 2825 Montrose Ave., Chicago, Ill.	H. B. Howe, President & Gen. Mgr. C. W. Howe, Secretary & Treasurer Karl Prestin, Accountant
Ingersoll-Rand Co. 11 Broadway, New York, N. Y.	F. W. O'Neill, Chief Engineer F. W. Green, Engr. Refrig. Dept.
Linde Canadian Refrigeration Co., Ltd., 355 St. Peter St., Montreal, Canada.	C. W. Vollman, President H. McGarry, Sales Manager
Pennsylvania Engineering Co. 119 N. Howard St., Philadelphia, Pa.	Lee Nusbaum
Phoenix Ice Machine Co. 2711 Church Ave., Cleveland, Ohio.	H. E. Bollinger, Treasurer A. Novotny H. Jeck
Rebsamen & Almeroth 2328 Elston Ave., Chicago, Ill.	George Almeroth
Remington Machine Co. 411 E. Front St., Wilmington, Del.	Donald Satterthwait, President and General Manager A. P. Clark, Vice-Pres. and Sec'y
Vilter Manufacturing Co. Milwaukee, Wis.	Emil Vilter, President W. R. Kremer, Sales Manager A. N. Mueller
Henry Vogt Machine Co. 10th and Ormbsy Sts., Louisville, Ky.	Henry Vogt, President G. A. Heuser, Secretary & Treas. G. T. Ellis, Manager Ice Machine Department Sales
Voss Ice Machine Works 242 E. 122nd St., New York, N. Y.	Bernhard Voss R. C. Becker
Worthington Pump & Machinery Corp. Laidlaw Works, Cincinnati, Ohio.	George Steven Eng. of Refriger. R. D. Brooks, Harrison, N. J. H. H. Miller, Sales Manager
York Ice Machinery Corp. York, Pa.	S. E. Lauer, Asst. to President C. O. Fehl, Gen. Sales Manager J. W. Emig, Asst. Gen. Sales Mgr.
Carbondale Machine Co., J. S. Louis, 1031 S. Broadway, Los Ang., Cal.	
N. H. Hiller, Pres. R. M. A., P. O. Box 326, Carbondale, Pa.	
Peerless Ice Machine Co., R. W. Kritzer, Sec'y, Chii Sec., 515 W. 35th St., Chicago, Ill.	
Juruick Refrigeration, Inc., C. H. Warner, Sec'y, N. Y. Sec., 307 E. 23rd St., New York, N. Y.	

OFFICERS AND COMMITTEES FOR YEAR BEGINNING OCTOBER 1, 1927

N. H. Hiller, president.....
A. H. Goelz, vice-pres...Brunswick-Kroeschell Co.
Fred Nolde, secretary..Vilter Manufacturing Co.

Executive Committee

N. H. Hiller, chairman.....
A. H. Goelz.....Brunswick-Kroeschell Co.
Fred Nolde .....Vilter Manufacturing Co.
Emil Vilter .....Vilter Manufacturing Co.
A. H. Baer .....Frick Company, Inc.

Membership Committee

A. H. Goelz, chairman..Brunswick-Kroeschell Co.
Emil Vilter.....Vilter Manufacturing Co.
Ezra Frick .....Frick Company, Inc.
G. T. Ellis .....Henry Vogt Machine Co.

Business Ethics Committee

Louis Baron, chairman .....
.....De La Vergne Machine Co.
J. L. Baker.....Baker Ice Machine Co.
Lee Nusbaum....Pennsylvania Engineering Co.
W. H. Carrier.....Carrier Engineering Corp.

Standardization Committee

W. R. Kremer, chairman.....
.....Vilter Manufacturing Co.
L. B. Von Weise.....Ball Ice Machine Co.
G. A. Heuser.....Henry Vogt Machine Co.
R. J. Hilliker.....York Ice Machinery Corp.
E. M. Holcombe.....Carbondale Machine Co.
Walter Jones.....Brunswick-Kroeschell Co.
Fred Nolde.....Vilter Manufacturing Co.

Cost Accounting Committee

D. Norris Benedict, chairman.....
.....Frick Company, Inc.
Louis Baron.....De La Vergne Machine Co.
H. B. Carey.....Automatic Refrigerating Co.
S. B. Carpender.....Brunswick-Kroeschell Co.
Emil Vilter.....Vilter Manufacturing Co.
G. A. Heuser.....Henry Vogt Machine Co.

Ordinance and Statutes Committee

J. I. Lyle, chairman.....
.....Carrier Engineering Corp.
S. E. Lauer.....York Ice Machinery Corp.
F. W. Green.....Ingersoll-Rand Co.
O. P. Heller.....Creamery Package Mfg. Co.
H. E. Bollinger.....Phoenix Ice Machine Co.

Legal Committee.

Louis Baron, chairman.....
.....De La Vergne Machine Co.
A. H. Goelz.....Brunswick-Kroeschell Co.
H. B. Carey.....Automatic Refrigerating Co.
R. D. Brooks..Worthington Pump & Mchy Corp.

Freight and Transportation Committee

C. O. Fehl, chairman.....
.....York Ice Machinery Corp.
G. T. Ellis.....Henry Vogt Machine Co.
H. B. Howe.....Howe Ice Machine Co.
C. A. Baker.....Baker Ice Machine Co.

(*Continued on Next Page*)

BUHL BUILDING

BUHL LAND COMPANY
GRISWOLD AND CONGRESS STREETS
DETROIT

ARTHUR H. BUHL, PRESIDENT
LAWRENCE D. BUHL, VICE PRES'T & TREAS.
D. S. KISKADDEN, VICE PRES'T & SEC'Y
F. W. HELLOR, SECRETARY

June 25, 1928.

Rice Products, Inc.,
305-315 Beaubien St.,
Detroit, Michigan.

Gentlemen:- Attention:- Mr. H. C. Clappison

We are enclosing our order for the self-contained electrically operated water coolers for use by the tenants of the Buhl Building. We are giving you this business because our tests showed your cooler to be the best. As you know, these tests were very comprehensive and covered a period of many months.

We feel indebted to the Detroit Board of Health for their wholehearted cooperation in conducting bacteriological tests in conjunction with our own engineering tests.

In the planning of the Buhl Building, we rejected the so called drinking fountains from our corridors because of the universal lack of sanitation which exists in them no matter how carefully the water may be purified before it reaches the fountain. This conclusion had been reached by most of the fine New York and Chicago buildings who had eliminated corridor drinking fountains as an obsolete feature.

Our research has shown conclusively that absolute temperature control is of utmost importance in controlling the development of bacteria and that the ceramic stone water container used in the Rice Cooler, is an excellent medium for the preservation of a healthful condition.

Very truly yours,

BUHL LAND COMPANY,

HWT:EM MANAGER OF BUILDING.

Homes
Apartments
Hotels

ELECTRIC RICE REFRIGERATION

Stores
Restaurants
Factories

Buhl Selects RICE!

WHEN the Buhl Land Company, owners of the beautiful Buhl Building, decided to equip the offices of tenants with modern electrically operated water coolers, it was only natural that they should arrange for a competitive test. Between the many contenders this test ran for months under the direct supervision of the highly competent Buhl Land Company engineers.

READ THEIR LETTER

25 Years of Knowing How

Hundreds of Rice designed electric refrigeration machines have been installed on ships of the American, British and French navies.

The Dealer's Opportunity

Mr. Dealer:—Here is a case which definitely proves that he who has a complete line of refrigeration to offer, is in position to do a profitable continuous business all through the year.

RICE PRODUCTS, INC.

New York *Electric Refrigeration Manufacturers* Detroit

2700 Attend Fourth Annual Convention of Williams Oil-O-Matic Co. at Bloomington, Ill.

Line of Home Devices Includes Oil Burners, Electric Refrigerators, and Gas Heaters

Twenty-five different styles of cabinets for the Ice-O-Matic refrigerating machine, and a special display of refrigerated show-cases were features of the fourth international convention at Bloomington, Ill., June 25-30, of the Williams Oil-O-Matic Heating Corporation. Ice-O-Matic divided attention with Oil-O-Matic as the older products of the corporation, and two new products were introduced, Dist-O-Matic, consuming distillates in a specially designed type of gasifying burner, and Dist-O-Stove, planned to supplant ordinary coal and wood-burning stoves as a means of heating cottages, summer homes, small stores, private garages, etc.

These additions to the line give the Williams Corporation facilities for handling the food-cooling problem in the majority of American homes, and for heating the great majority as well, since the new Dist-O-Matic alone, built for houses of five to seven rooms, can heat 63 per cent of the homes in the United States, according to Walter W. Williams, corporation vice-president and head of the engineering department.

President C. U. Williams predicted that the number of oil burners in domestic use in the United States would reach 1,000,000 in the 1928-1929 season, and he also asserted that the rapid spread had been hastened by the immense continued supply of low-priced oil, which shows no signs of lessening.

Keeping the Democrats Cool at the Houston Convention

Part of the battery of General Electric water coolers which soothed the parched throats of the delegates during the National Democratic Convention at Houston, Texas.

Objects of the Refrigerating Machinery Association

First: To promote and safeguard the welfare and common business interests of its members through discussion, consideration, and co-operation in all matters of interest and value to the industry of manufacturing or selling refrigerating and ice-making machines and plants.

Second: To promote harmony and encourage uniform customs and practices among its members.

Third: To establish and maintain closer business and social relations between those engaged in the industry.

Fourth: To reform abuses and secure freedom from unlawful and unjust exactions.

Fifth: To encourage advancement and improvement in all branches of the industry by promoting and supporting investigations, experiments, standardization and research and collecting and distributing statistics and information of value to the members.

STANDING COMMITTEES

(*Continued from Page 9A*)

Manufacturers Committee
Emil Vilter, chairman.....Vilter Mfg. Co.
Louis Baron .....De La Vergne Machine Co.
S. B. Carpender .....Brunswick-Kroeschell Co.
H. E. Bollinger.....Phoenix Ice Machine Co.
E. M. Holcombe.....Carbondale Machine Co.
O. P. Heller.....Creamery Package Mfg. Co.
J. L. Baker.....Baker Ice Machine Co.
H. B. Howe.....Howe Ice Machine Co.
Ezra Frick .....Frick Company, Inc.
J. I. Lyle .....Carrier Engineering Corp.

Publicity and Statistics Committee
Fred Nolde, chairman.....Vilter Mfg. Co.
C. O. Fehl.....York Ice Machine Corp.
G. T. Ellis.....Henry Vogt Machine Co.
C. A. Baker.....Baker Ice Machine Co.
O. P. Heller.....Creamery Package Mfg. Co.

Foreign Commerce Committee
S. B. Carpender, chairman.....
.....Brunswick-Kroeschell Co.
Ezra Frick .....Frick Company, Inc.
W. S. Shipley.....York Ice Machinery Corp.

Program Committee
Fred Nolde, chairman.....
.....Vilter Manufacturing Co.
H. I. Lewis.....American Engineering Co.
R. J. Hilliker.....York Ice Machinery Corp.

Joint Research Committee on Welded Pressure Vessels
W. R. Kremer, delegate.....Vilter Mfg. Co.
Louis Doelling, alternate.....
.....De La Vergne Machine Co.

Joint Refrigerator and Machine Committee
A. H. Baer, chairman....Frick Company, Inc.
H. E. Bollinger.....Phoenix Ice Machine Co.
A. N. Mueller.....Vilter Manufacturing Co.
J. W. Emig.....York Ice Machinery Corp.
A. H. Goelz.....Brunswick-Kroeschell Co.

Organization Committee
A. H. Baer, chairman.....Frick Company, Inc.
R. A. Kroeschell.....Brunswick-Kroeschell Co.
W. S. Shipley.....York Ice Machinery Corp.
W. H. Carrier.....Carrier Engineering Corp.
J. S. Louis.....Carbondale Machine Co.

Sectional Committee to Co-operate with American Engineering Standards Committee on the Standardization of Ammonia Valves, Flanges and Fittings
W. R. Kremer, delegate.....Vilter Mfg. Co.
A. H. Baer, alternate.....Frick Company, Inc.

Joint Committee on Corrosion of Materials Used in Refrigerating and Ice-Making Equipment
Fred Nolde, delegate.....Vilter Mfg. Co.
F. W. Green, alternate.....Ingersoll-Rand Co.

National Code of Pressure Piping
C. O. Fehl, delegate..York Ice Machinery Corp.

Golf Tournament Committee
S. B. Carpender, chairman.....
.....Brunswick-Kroeschell Co.
L. B. Von Weise.....Ball Ice Machine Co.
G. T. Ellis.....Henry Vogt Machine Co.

Trade Standards Committee
Louis Doelling, chairman.....
.....De La Vergne Machine Co.
J. I. Lyle.....Carrier Engineering Corp.
Geo. Steven .....
.....Worthington Pump & Mchy. Corp.

Director of American Institute of Refrigeration
Louis Baron, director .....
.....De La Vergne Machine Co.
W. R. Kremer, alternate director.....
.....Vilter Mfg. Co.

Councillor to Chamber of Commerce, U. S. A.
Fred Nolde, councillor.....Vilter Mfg. Co.
A. H. Baer, alternate councillor..Frick Co., Inc.

Committee on Heat Transmission
H. Harrison, delegate..Brunswick-Kroeschell Co.

General Conference on Speeds of Driven Machines
Walter Jones, delegate..Brunswick-Kroeschell Co.

Sectional Committee on Safety Code for Mechanical Refrigeration
A. H. Baer, delegate.....Frick Company, Inc.
Fred Nolde, alternate.....Vilter Mfg. Co.

Committee on Erecting Tool Charges
G. T. Ellis, chairman..Henry Vogt Machine Co.
D. Norris Benedict.....Frick Company, Inc.
L. B. Von Weise.....Ball Ice Machine Co.

Committee on Apartment House Refrigeration
Lee Nusbaum, chairman .....
.....Pennsylvania Engr. Co.
S. B. Carpender.....Brunswick-Kroeschell Co.

Committee on Investigating Increased Insurance Rates When Ammonia Refrigerating Machines Are Installed in New Jersey
H. B. Carey, chairman .....
.....Automatic Refrigerating Co.
Louis Baron.....De La Vergne Machine Co.
H. Harrison .....Brunswick-Kroeschell Co.

Committee on Standardized Specifications for Refrigerating Equipment
H. Harrison, chairman .....
.....Brunswick-Kroeschell Co.
W. H. Aubrey.....Frick Company, Inc.
J. W. Emig.....York Ice Machinery Corp.

Joint Committee on Standardization of Ice Cans
W. R. Kremer, chairman.....Vilter Mfg. Co.
R. J. Hilliker.....York Ice Machinery Corp.
A. H. Baer.....Frick Company, Inc.

Committee on College Education
J. I. Lyle, chairman..Carrier Engineering Corp.
S. B. Carpender.....Brunswick-Kroeschell Co.
Harry Sloan .....Vilter Manufacturing Co.

DUTIES OF COMMITTEES

1. Executive Committee to consider all matters of an executive nature, affecting the policies and welfare of our Association.

2. Membership Committee to pass upon all applications for membership and report their recommendations to the Association. To maintain a high standard of membership, and, with this object in view, to endeavor to extend the membership.

3. Business Ethics Committee to consider all questions pertaining to the ethics of our industry and business relationship between members. To formulate a code of ethics for our Association.

4. Standardization, Simplification and Elimination Committee to formulate a program for standardization, simplification and eliminaton to the end that our Association may work towards uniform standards of sizes and types of fittings, valves and machinery parts, and to provide simplification and elimination of unnecessary types and sizes. To co-operate with similar committees of other trade, scientific and governmental organizations.

5. Cost Accounting Committee to compile statistics on various cost accounting systems, with the object of adopting uniform cost accounting. To secure the co-operation of the Federal Trade Commission to prevent selling below cost.

6. Ordinance and Statutes Committee to tabulate and report on all proposed or active municipal, state and national ordinances and statutes that vitally affect our industry. To co-operate with other bodies and the proper authorities, to the end that the interests of the public be safeguarded and that justice be secured for our industry.

7. Legal Committee to take cognizance of and recommend action on all legal questions affecting our industry.

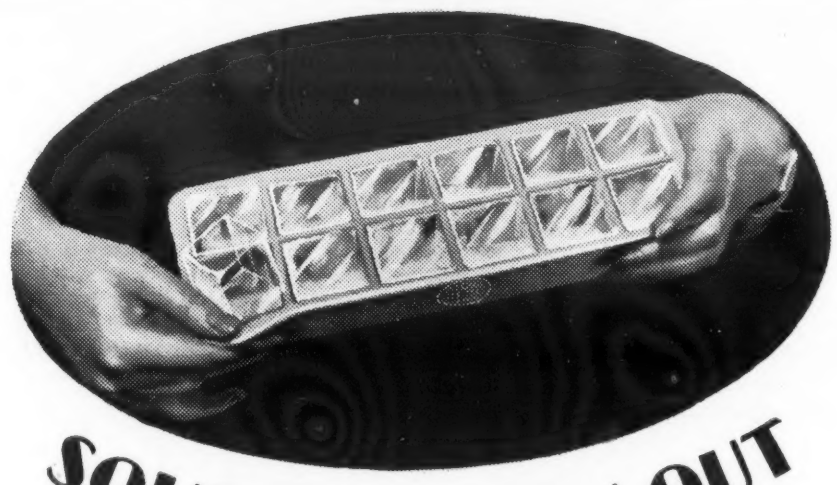
8. Freight and Transportation Committee to collect data as to rates and classifications, methods and routing of shipments, proper boxing, standardized bills of lading, shipping papers and packing lists.

9. Manufacturers' Committee to tabulate and consider questions pertaining to wages, hours and labor conditions. To co-operate in the promotion of modern office and shop rules, methods and industrial organization. To investigate and recommend to the Association, ways and means for promoting the study of refrigeration in the colleges and universities of this country.

10. Program Committee, to prepare programs for our meetings.

11. Publicity and Statistics Committee to gather statistics of interest to our business in general and to initiate and spread propaganda favorable to our industry.

12. Foreign Commerce Committee to collect such data and statistics pertaining to foreign commerce, with the object of increasing the volume of exports of our ice making and refrigerating machinery.



SQUEEZE THEM OUT

Ice Cubes *Can't* Stick to the

COPEMAN ICE TRAY

PATENTED

NO more blasting to get ice cubes out of automatic refrigerator trays. The new Copeman Ice Tray does away with the trouble and annoyance of heating, prying and digging to loosen ice cubes from metal trays. The cubes *must* come out—because they can't stick to the sleek, white sides of the Copeman Ice Tray.

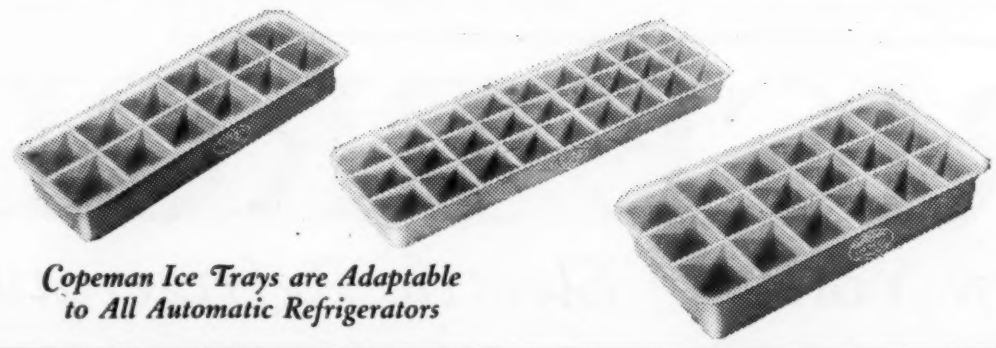
By using pure white rubber the Harwell Rubber Co., Inc., make this convenient, temper-saving new tray that can be emptied of one or all of its cubes in an instant—merely by a twist of the flexible rubber tray.

Automatic refrigeration is saving ice-box inconveniences in thousands of homes; now it can save time, temper and trouble with the marvelous new Copeman Ice Tray.

Prices and Information On Application

HARWELL RUBBER CO., INC.

Sole Manufacturers and Distributors 5 E. 44th Street, New York



Copeman Ice Trays are Adaptable to All Automatic Refrigerators

Three Temperatures for Ice Cream, Meat and Vegetables

Two McCray Coolers, Two McCray Display Cases and Soda Fountain Operated by Four Frigidaire Units

By Roy George

THE Frigidaire equipment recently installed in the seventh unit of the Bayless Stores, Inc., Phoenix, Arizona, makes the plants of this concern 100 per cent electrically refrigerated and one of the largest and most complete installations in the state.

The store is fitted with two McCray Walk-in Coolers, each containing 1,000 cubic feet of space and with two large refrigerated display cases also by McCray. Four Frigidaire units, one horse-power each, provide refrigeration for the new store. In the number of compressors used, the Bayless plant is the largest Frigidaire system in use in Arizona, although in cubic foot capacity, other establishments may outdistance it. The equipment was installed at a cost of $3,500 to the customer.

Several Temperatures Maintained

Three of the units cool, respectively, the meat box, the vegetable box, and the meat show case. The fourth cools the soda fountain and delicatessen show case, containing the dairy products. Ice cream containers at the fountain shown in the insert are kept at a steady temperature of 10 degrees below zero, while temperatures slightly above freezing are maintained for the meats and vegetables. The meat box and meat show cases are kept at a temperature of 33 degrees above zero, one degree above the freezing mark, and the vegetable box is held at the mark of 40 above. For both meat and vegetables the intention is to keep them as cold as possible without freezing.

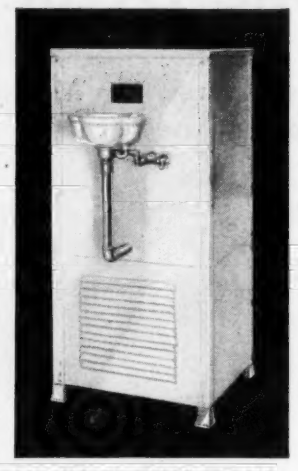
The boxes used in the refrigerating plant are by McCray, specially designed and insulated. They were installed by A. E. Lightfoot, representative of the McCray Co. in Phoenix. The Frigidaire units were installed by the Phoenix branch of the Frigidaire Corp. of which Mrs. M. J. Davis is manager. M. J. Bayless, proprietor of the store and founder of the Bayless Stores, Inc., expressed himself as particularly well pleased with this last installation.

"Every sales force must concentrate on giving the customer the exact temperature he requires to meet the conditions of his particular line of trade. One of the most important features of a good installation is its ability to maintain the even temperature for which the automatic control has been set. The difference between meat and vegetables is quite marked and customers like Mr. Bayless know what they want," said Mr. Lightfoot.

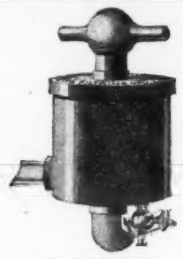
The Frigidaire unit at the soda fountain also serves the delicatessen showcase. Dairy products are kept here. The management of the store plans to keep the fountain and delicatessen open every evening during the summer months, and the arrangement which makes it possible to handle milk at the delicatessen counter is expected to prove a popular feature of the store.

"It is to meet the special conditions that the merchant believes will be valuable to him that the local Frigidaire organization strives," said Mrs. Davis. "We have made it a point to work out a schedule that will conform exactly to the special requirements in this case, and the flexibility of the installation is as much a matter of pride as is its reliability."

KELVINATOR DEALERS!!



Model No. 1A. with Filter-Bubbler



No. 3 FILTER for use with *every* cooler ... priced at only $15.

Here's a way to increase profits!

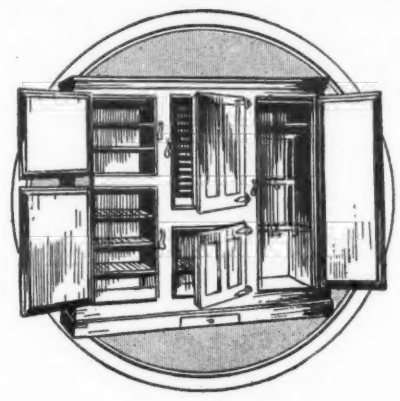
The demand for electrically cooled drinking water coolers is sweeping the country ... Banks, theatres, restaurants, hospitals, factories, offices, stores are potential buyers ... now is the time to meet their demand with coolers of proven dependability ... FILTRINE-KELVINATOR WATER COOLERS!

Factory Approved

Built by an organization famous for fifteen years... Equipped with Kelvinator units ... Backed by the reputations of both companies ... FILTRINE Water Coolers are the most modern, most scientific, most dependable coolers ... the *coolers of tomorrow, obtainable today* ... the coolers that meet "peak" demands ... the coolers that give continuous, trouble-free satisfaction ... Write for details.

The FILTRINE Manufacturing Co. -- 49 Lexington Ave., Brooklyn, N. Y.

Manufacturers of Coolers and Filters of All Sizes



Over 250,000 SATISFIED Users

"To the dealer in electrical refrigeration of any type, the prestige of McCray as a builder of fine cabinets has real profit value."

PIONEER in modern sanitary refrigerator construction, for 38 years McCray has held to an unyielding ideal of quality which is reflected in the remarkable service records of McCray installations.

McCray users have always been our best advertisements. This army of over 250,000 satisfied customers is striking evidence of that leadership which is further revealed in the fact that McCray is the world's largest manufacturer of refrigerators for all purposes.

In single stock units and complete built-to-order installations for the largest institution, McCray quality is held to this single high standard.

All McCray models may be used with electric or mechanical refrigeration of any type, or ice. Pure corkboard, sealed with hydrolene by a distinctive process, provides perfectly air-tight insulation.

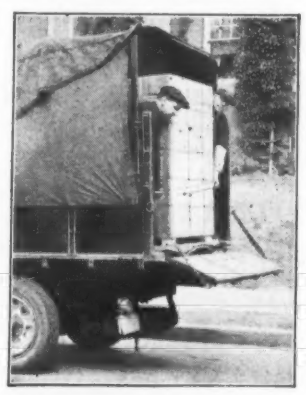
Send for latest catalogs and further information about refrigerators to meet your specific need. No obligation, of course.

McCRAY REFRIGERATOR SALES CORPORATION
Dept. 66. Kendallville, Indiana

SALESROOMS IN ALL PRINCIPAL CITIES *(See Telephone Directory)*

McCRAY REFRIGERATORS

The soft padded form-fitting jacket slips on in a jiffy.



The sturdy slings make ideal hand-holds. Men can get a good, sure grip.

JUST GRAB THE STOUT SLINGS AND UP SHE GOES ON THE TRUCK

THE safe handling of heavy, cumberstone refrigerators is now greatly simplified with the new Webb Slingabout.

The Slingabout consists of a snug-fitting padded jacket of stout canvas lined with soft, quilted flannel. The jacket is secured with heavy three-ply belting slings; reinforced with leather; sewed, riveted and finished with a tongue buckle that cannot slip. Your truck men can get a good, sure grip on these slings and quickly load the most awkard refrigerator.

The Slingabout means positive protection, too—eliminates the danger of scratching or marring. It does away with the need of wooden crates on all truck shipments, and makes a *clean* delivery.

Slingabouts are made in sizes to fit every refrigerator. The attached coupon brings you prices and complete information—Fill it out now.

WEBB *Slingabout*

CHARLES J. WEBB & CO.
116 Chestnut Street
Philadelphia

Charles J. Webb & Co.
116 Chestnut Street

Please send me full information about the Webb Slingabout.

Name.....

Address.....

'Don't *Talk* Service-*Give* It' Advises Zerozone Dealer

Careful Installation and Regular Inspection Make Need for Advertising "Service" Unnecessary

By R. A. Sullivan

MOST people expect only what they buy. Give them more and you have done more than win a customer for life. You have won a friend for your company. The cost of this extra effort is small compared with the outlay of money, patience, and all that enters into the task of turning a prospect into a customer. Give a customer more than he pays for, and your attentions will be repaid with interest.

Thus speaks C. H. Strauss, secretary-treasurer of Mayer Godchaux Co., Inc., New Orleans representatives for the Iron Mountain Co., of Chicago, makers of the Zerozone electric refrigerator. The company also handles both Benjamin Crysteel, and Seeger cabinets.

In keeping with Mr. Strauss' idea of "giving the customer more than he buys," this concern makes no voluntary promises of "service." The word service has been dragged through the mud until its meaning has become lost, in the opinion of Mr. Strauss. As a matter of fact, he believes the public has come to shy at the sound of it, and prefers dealing with a house that does not plaster the word all over the building.

When a person buys a Zerozone, in New Orleans, skilled mechanics install it. But the company's interest in the sale does not end there. Representatives call in person, not by telephone, at intervals, long after the sale has been completed, and there is nothing further to look for in connection with the transaction. The representative calls to see if the refrigerator is giving complete satisfaction. If not, he puts in a hurry call for a mechanic, and the mechanic makes any necessary adjustment. This is done without cost to the owner.

Incidentally, this attention, little as it is, creates a feeling of good will toward the Godchaux institution. It is the best form of advertising that his company has attempted, Mr. Strauss asserted. It is a type of advertising that pays dividends in the way of new customers and in making friends for the house.

While the Godchaux company has been in the field only a few years. Mr. Strauss is very proud of the records on his books which show the source of prospects and customers. In a surprising number of instances these customers and prospects have been given to the company by persons who have bought refrigerators from this concern. This, Mr. Strauss believes, is a high tribute to the product that he sells, as well as to the methods employed in following up prospects gained in other ways than from present customers.

House-to-house solicitation in this line is not satisfactory in New Orleans, Mr. Strauss declared. Solicitors rarely are permitted to see the "lady of the house," being met at the door by a servant. They are either refused an audience entirely, or they are forced to relay their message through the servant to the prospective purchaser, and this has proved rarely productive.

This leaves the principal avenues through which prospective purchasers may be reached, in newspaper advertising and direct-by-mail campaigns.

Other means of reaching prospective purchasers are through watching a local commercial daily newspaper, which lists new home-owners, and by keeping in close contact with architects.

However, New Orleans refrigerator dealers have a resistance to meet in the local electric current rates. The rate there ranges from 10.1 cents for the first 20 k. w. hours down to 6.2 cents where current in excess of 200 k. w. hours is used. In addition, there is a 25-cent leader charge.

On the other hand, patrons of public utilities along the Mississippi Gulf coast, Mr. Strauss said, are required to pay only approximately 4 cents. This discrepancy, which occurs in a radius of about 80 miles of New Orleans, is proving a rather severe handicap.

This situation can be cleared up, however, in the opinion of Mr. Strauss, if the local dealers will form an organization. It is believed that a strong group of dealers, determined to stand together, could go before the Public Service Corporation and explain that, inasmuch as they are encouraging the use of electricity, that the dealers' plea for a reduced rate to refrigerator users should be met with a favorable action.

Little has been done, however, toward forming a permanent organization of the retail dealers. The dealers combined in the latter part of May and presented an electric refrigeration show, which stimulated sales greatly. The show was well attended, and most of the exhibitors obtained good prospect lists, upon which they are now working.

The Godchaux concern's offices and display rooms are at 1330 St. Charles Avenue, the show street of New Orleans. The building is attractively constructed of pressed brick, with the entire front devoted to large windows, in which unusual care is given to displaying the products the company handles.

New Postal Ruling Gives Advantage To Direct Mail Advertisers

National and local users of direct mail advertising have long desired some means whereby the prospect may be furnished with a reply card or envelope on which postage may be paid by the advertiser when the reply is received. If the advertiser affixes postage stamps to the reply cards or envelopes for the entire mailing the cost is considerable, particularly since only a nominal percentage of replies are expected from most mailings. The advertiser is usually quite willing to bear the cost of postage on actual replies in order to avoid this slight expense and inconvenience to the prospect. To meet this situation, direct advertising interests have frequently suggested that the post office make provision for collection on delivery.

Effective July 1, 1928, permits may be secured from the third assistant postmaster general upon application on form 3614 through the local postmaster, for the privilege of sending out business reply cards or envelopes and paying the postage upon return. Certain conditions are prescribed for the use of this privilege and those desiring to avail themselves of it should secure full information from the local postmaster before taking any steps to use the new system. For example, the business reply cards or envelopes must be distributed in lots of not less than one thousand and must be printed in accordance with definite instructions. Furthermore, the postage collected on delivery is higher than the usual rate, being 3 cents for a card and 4 cents for a letter weighing not more than one ounce.

One Cent Rate For Private Mailing Cards

The new regulations also restore the old 1-cent postage on private mailing cards. Post cards must conform in size and quality with the government postal card, the maximum size permissible being 3-9/16" x 5-9/16", the minimum size 2¾" x 4".

Of interest to those who wish to remail copies of ELECTRIC REFRIGERATION NEWS or other newspapers or magazines (complete copies only), which are entered as second-class matter is the new rate of 1 cent for each two ounces or fraction thereof, regardless of weight or distance. This so-called "second-class transient" matter does not take parcel post rates as it did formerly when a package weighed over eight ounces. It should be noted, however, that incomplete copies of newspapers and magazines take the regular third-class rates (1½ cents for each two ounces) up to eight ounce weight and above eight ounces take parcel post zone rates as formerly.

WELSBACH ANNOUNCES NEW DEALER APPOINTMENTS

The Welsbach Co., Gloucester City, N. J. announces the following additions to its distributing organization:

Distributors—Chas. G. Bosch Co., 317 No. Main St., Burlington, Iowa; J. L. Morley, Buffalo, N. Y.; Domestic Supplies Co., 613 Lackawanna Ave., Scranton, Pa.;

Associate dealers under distributors—C. L. Rupright, 116 West Crawford St., Findlay, Ohio; H. L. Dailey, Delta, Ohio; Freeborn & Rich, Randolph, N. Y.

Display dealers under branches—Welsh's Radio Shop, 11 Main St., Oil City, Pa.; Tri City Electric Co., New Kensington, Pa.; T. M. Lenfestey Co., 26 East Main St., Carnegie, Pa.; T. A. Warensford, 530 Washington St., Bridgeville, Pa.; The Davis, Hunt, Collister Co., 416-420 Prospect St., Cleveland, Ohio.

G. E. Appoints New Dealer in Union City, N. J.

The Brody Electric Co., 665 Bergenline Ave., Union City, N. J. has recently taken the agency for General Electric refrigerators.

ELIMINATE RUST AND CORROSION

By the
WOLVERINE PROCESS OF ENAMELING AND LACQUERING OVER PARKERIZED BASE METALS

The most expert enameling or lacquering known to industry will surely break down under the effects of rust or corrosion which attacks the metals of refrigerating or ice cream cabinets if they have not first been rust-proofed.

The Wolverine Process of lacquering over Parkerizing not only provides a positive rust-proofed metal—but Parkerizing eliminates the primer coat and gives the lacquer a smoother, finer finish.

Establish a reputation in your foreign markets for quality products by protecting your cabinets against corrosion due to the salt air of ocean shipments.

The Wolverine Process is a guarantee and a safeguard against deterioration—and a sales asset no manufacturer should overlook.

Ask us to show you proof by test.

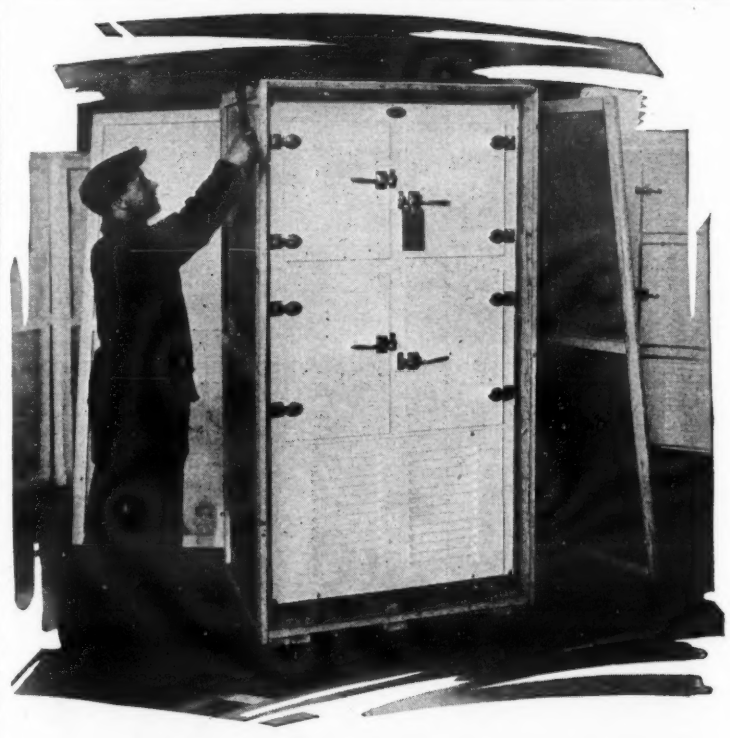
Wolverine Enameling Company
5203 Martin Avenue - - Detroit

"The largest and most complete enameling, lacquering and rust-proofing plant in Michigan."

E. T. L. Service *for* Domestic and Commercial Electric Refrigeration

Testing and experimental laboratory service for *manufacturer, distributor, central station*
Test data exclusive property of client

ELECTRICAL TESTING LABORATORIES
80th Street and East End Avenue, NEW YORK CITY, N. Y.



ATLAS
REFRIGERATOR CASES

Made-to-order containers for your economy

If you manufacture refrigerators, you can save time, labor, worry and expensive damage claims by packing and shipping in strong, safe Atlas Refrigerator Cases.

If you are a refrigerator dealer or agent, you will be saved a great deal of refinishing bother, a surprising amount of freight, a lot of time in placing the refrigerators before your customers and have containers which you can re-use, when manufacturers ship to you in protective Atlas Refrigerator Cases.

Manufacturers and dealers alike are enthusiastic about the economies effected by these modern ATLAS plywood packing cases.

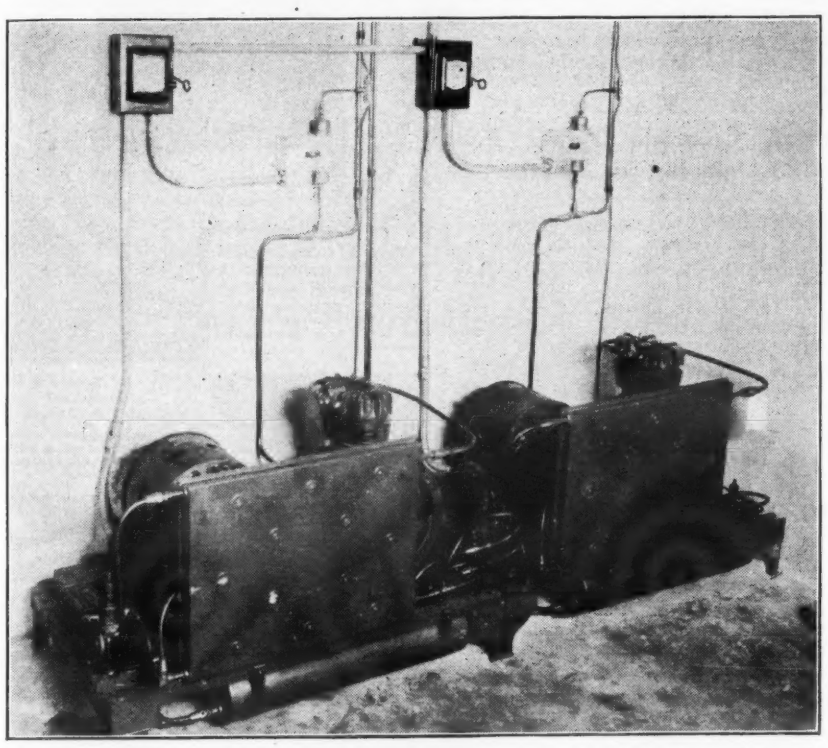
Atlas Packing Cases
CARRY THE WEIGHT—SAVE FREIGHT
ATLAS PLYWOOD CORPORATION
PARK SQUARE BLDG. BOSTON, MASSACHUSETTS

New York Office, 90 West Broadway - Chicago Office, 649 McCormick Bldg. - Southern Division (formerly Empire Mfg. Co.) Goldsboro, N. C.
Branch Factories: Grand Rapids, Mich. Bloomington, Ind. Jamestown, N.Y. and in nine other cities

An Extra Half Hour on the Job When Making the Installation Saves Many a Service Call Later

Systematic Methods Which Satisfy Customers and Add Profits to the Balance Sheet

By Frank W. Gray,
Sales Manager, Rocky Mountain Radio Corp., Refrigeration Division, Denver, Colo.



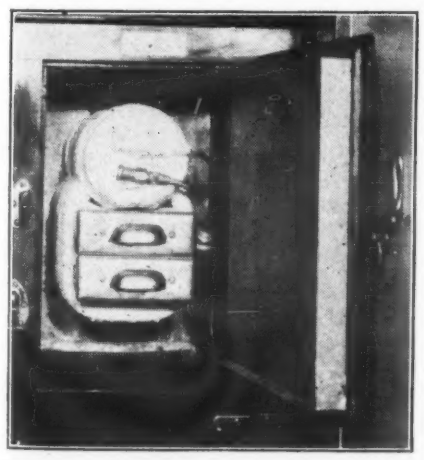
Correct installation of two 1-H. P. condensing systems. Note smooth bends and neat arrangement of tubing bracketed securely to wall. Note electrical connections. In many cases we cover such batteries of machines with wire cage to prevent interference. These two condensing systems handle 35 apartment boxes.

OUR law professor in college, a short dynamic man with a booming voice, used to tell us from his lecture platform that the difference between high marks and low marks, the difference between the prize scholars and the indifferent scholars, was only about thirty minutes a day of hard work. Just thirty minutes a day! He used to emphasize this remark with vigorous thumps of his fist on the desk.

The writer is not a moralist. Yet there is a very sound moral in this remark, particularly for the electric refrigeration dealer. It applies particularly to installation work, since no dealer, however strong be his position, can ever achieve profitable sales results in electric refrigeration without getting 10 per cent results from his installations.

The writer prefers to break in green installation men rather than to take seasoned men from other companies. The reason for this is simply that we have in our organization certain particular specifications in making installations which we know pay out in the end, but which the seasoned man-"who knows it all" is apt to disregard as superfluous.

Whether the installation be a simple household job, or the most complicated of commercial apartment house jobs, we insist that certain painstaking methods be



Picture showing correct installation of cooling unit in apartment house box where new cabinets are not specified. Note rigidity of steel hangers supporting coil, and smooth bends in copper tubing.

followed in locating and hooking up the equipment. Result—our organization has achieved a reputation for installation work, and electric refrigeration customers have come to realize that good installation work is about 50 per cent of getting results. A poor installation man can certainly make a good system look very bad. And most dealers know the difference on the profit and loss sheet between jobs that produced results and jobs that didn't.

A Written Contract for Every Job

In the signing up of every job, however small, we insist that a typewritten contract containing exact specifications be written up and submitted to the owner. In many cases this might seem superfluous. However, in many cases where the owner has become unreasonable as to what was expected of us, we simply submit the specifications signed and accepted by him as proof of our having obtained specified results.

For instance, just recently we installed a unit in a soda fountain. After the installation was completed the owner insisted that our salesman had promised him that he would not only complete the refrigeration installation on the fountain, but would also put in the fountain plumbing which rightfully should have been done by the company from whom the fountain was purchased. We simply submitted to this man the contract he had accepted and signed, and he instantly saw that his claim was unjust.

In cases of argument as to whether the right temperature is obtained, we place a recording thermometer in the box and take a record of temperatures over a forty-eight hour period. This thermometer is padlocked, and is positive proof supporting our guarantee of temperature in the specifications.

Work—Don't Talk

When our installation men go on the job they are cautioned not to talk. Talkative installation men are very often responsible for misunderstanding on the part of the owner. They are instructed to do their work during hours when they will cause the least possible annoyance to the purchaser, they are instructed never to leave tools on the job, and they are required to clean up the premises whenever they leave.

There is an art in the correct running of copper tubing. All bends should be perfectly rounded. All joints should be carefully flared and connected. We use forged bronze nuts and tees, of a heavier type than are ordinarily specified. Consequently we have very few leaks and practically never a cracking of flare unions through frost action.

We require our men to fasten the tubing to the wall with brackets, using a few thicknesses of tape wound neatly underneath, so that there can be no vibration after the machine is in operation. All electrical work must be done in the same faultless manner. When tubing is run along the basement ceilings and up walls in the installation of apartment house work we cover it with steel moulding and paint the moulding the same color as the walls. A little extra work, perhaps—but it pays!

Installation Requirements

Our commercial freezing coils are securely mounted on steel hangers, enameled to prevent rust. Our apartment house cooling coils are mounted in the same way. Cooling units in household installations are also mounted in galvanized iron hangers, so that the unit is firm in the ice compartment and cannot be jarred loose to develop a leak in the tubing connections.

When we install cork insulation in an ice cream fountain or cabinet, or in an ice box, we use a cork sealer, and cover all exposed places with cork cement, which hardens with a surface like glass. When holes are bored through walls, or the sides of ice boxes, we fill the ragged aperture with quick hardening plaster, making the job look finished and at the same time eliminating heat leakage.

On small household installations, errors in installation can sometimes cause hours of work. We seldom mount a condensing unit on the wall of the basement in putting in remote installations. Even where the wall is solid brick we sometimes find that a vibration may be carried to some remote part of the house, and even solid iron brackets with bolts through two feet of brick will not keep this vibration from annoying the occupants. A cement floor is about the best foundation for any type of condensing unit. Where cement is not available, a shallow box of sand with two inches of cork over it will generally turn the trick.

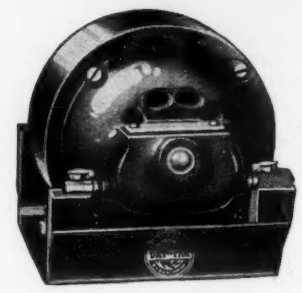
A Set High Standard Pays

We have found that by insisting upon a certain standard of installation work, which covers even the minutest details, we have been able to minimize the trouble shooting in our refrigeration division to an extent where sometimes a week passes without a call from one of the several hundred installations we have in our city. Our salesmen are proud to take prospective customers in to see jobs in operation. And in many cases prospects are sold on our installation work alone.

After the job is finished, we require our service manager to bring in a letter of acceptance from the owner. This acceptance entails a secondary inspection of the job by the service manager himself, and constitutes his release from responsibility on the actual installation of the job. The acceptance has no effect upon the guarantees which are embodied in the contract, but does insure the satisfaction of the owner with the work of the installation men. These acceptances may also be used as testimonials in the sales department.

When such methods as these are followed in electric refrigeration merchandising, there is little room for complaints. Results are sure to follow. And the jobs will soon advertise themselves. Perhaps our standards are a little high. But that half hour extra effort on the day's work certainly shows up in the right place on the balance sheet!

Day-Fan
RADIO · MOTORS · FANS
PRODUCTS



TO the designing and construction of a motor for refrigerating systems especially, Day-Fan Electric Company has brought the experience of 39 years of manufacturing high grade electrical apparatus. Day-Fan fans and motors have won world-wide recognition for dependability.

High power factor and efficiency, low initial cost, low cost of operation—are characteristics of the Day-Fan motor.

A sample test motor will be shipped to any interested manufactured on request.

THE DAY-FAN ELECTRIC COMPANY
DAYTON, OHIO

CABINETS BY
Seeger
SAINT PAUL

SEEGER presents a new line of six-foot Cabinets in all porcelain. These Cabinets have the superior construction, correct insulation and compelling beauty which are characteristics of Cabinets by Seeger. Intended for small families they have the usual Seeger conveniences of Chiltray and Vegetable and Fruit Storage Compartment.

SEEGER REFRIGERATOR COMPANY

NEW YORK 389 Madison Ave. | BOSTON 26-28 Providence St. | ATLANTA 392-4-6 Spring St., N. W. | LOS ANGELES 1340 E. Sixth St. | CHICAGO 228 N. LaSalle St. | SEATTLE 1119 Fourth Ave.

Interesting Silica Gel Process of Refrigeration Attracts Many Visitors at Atlantic City

The mysteries of Silica Gel were explained at this booth of the Copeland Silicia Gel Corp. at the N. E. L. A. Convention, Atlantic City, June 4-8. A Silica Gel unit was operated in connection with a market cooler and an apartment size domestic refrigerator. This display adjoined the Copeland exhibit in which the De Luxe line of colored models was featured.

France Offers Fertile Field for Both Commercial and Domestic Refrigeration Sales

American, Swedish and Swiss Firms Compete —80 to 85 Per Cent of Domestic Units are American Made

By Marshall T. Jones, Chief Electrical Equipment Division

THE use of electric refrigerators for household purposes is still a novelty in France, and American companies already successfully established found an entirely new field in this market. Refrigeration for commercial purposes, however, is used to a considerable extent, and high-grade installations have been made by French and foreign firms for many years, the motive power generally used being electricity for smaller plants and internal combustion and steam engines for large establishments.

It is estimated that 60 to 75 per cent of the business now done by American firms is for hotels, restaurants, dealers in food products, and other commercial establishments requiring refrigeration. The cost of such installations ranges from a minimum of 16,000 francs ($629) up. The remainder of the business represents domestic installations ranging in price from 6,000 francs to about 25,000 francs ($236 to $982).

It may reasonably be assumed that no more than a beginning has been made in the use of electric refrigeration apparatus in the household and small commercial enetrprises. Further development is largely a matter of education of the class able to afford the purchase of this equipment.

Little Domestic Competition

Little competition is offered at this time by French manufacturers in the production of household electric refrigerators, and a large share of the installations made for commercial purposes are of American, Swiss, and Swedish manufacture. Probably 80 or 85 per cent of the electric refrigerators supplied to homes and shops are of American make, the greater part of the remainder being furnished by Swedish and other foreign producers. French manufacturers have not failed to realize the importance of this branch of industry, however, and strong local competition may be anticipated within a few years.

Other Competition Increasing

The machine now actively competing with American products is the Electro-Lux, of Swedish manufacture. Two models of this make which are on display in Paris are priced at $275 and $314. They correspond closely in size and storage space to similarly priced models of American manufacture. About January 1, it was estimated that 300 of these machines had been sold, but it is practically certain that sales for 1928 will show a large expansion. The domestic corporation, capitalized at 5,000,000 francs, has recently taken over larger and better quarters, and now has an important sales organization based on American methods. The refrigerating machinery is imported from Sweden, but the company has its own factory in Paris.

Considerable success in commercial installations has been achieved by the Swiss firm Escher, Wyss & Compagnie, of Zurich, manufacturing "Autofrigor," and also by "Frigorigene" products made under patents of Audiffren et Singrun. Both of these firms maintain offices in Paris. Although both deal only in commercial installations at present, with the growth of the demand for household refrigeration equipment they may be considered as prospective competitors in that line.

Conditions Affecting Demand

With the exception of the region of the Riviera, the summers in France are not extremely hot, and food if kept 24 hours out of the sun will not spoil. It is more or less a universal custom with housekeepers to buy food for the day only. Ice may be purchased from creameries or other retail shops in Paris and the larger cities, but there is no daily delivery, such as is practiced in America. Iced drinks and foods are not in demand, except possibly in July and August and ordinarily not to a great extent even then. The best demand is among the wealthy and middle classes, and it is reported that a good field is in the outlying towns and provincial districts, where owners of chateaux and country places find the electric refrigerator a useful household appliance.

Imports of Refrigerating Equipment

It is difficult to determine exactly what amounts of electric refrigerating machinery have been imported into France during the last few years. The item covering refrigerating apparatus includes various other machinery and apparatus as well. Total quantities and values from all countries as reported in monthly bulletins of the Direction Generale des Douanes indicate that imports of such material increased during the past two years.

French imports of refrigerating equipment

Year	Metric tons	Value in francs*
1925	5,669	5,677,000
1926	5,016	11,125,000
1927	8,012	13,918,000

*The French franc in 1925 was worth $0.0477; in 1926 it was $0.0324; and in 1927 it was $0.0392.

During 1927 the United States shipped $69,112 worth of electric refrigerators up to 1 ton capacity to France, and during the first three months of 1928 such shipments amounted to $9,430.

Sales Methods, Advertising

Two general sales methods are open to American companies intending to enter the French market: Operation through a branch office or subsidiary company, or through a concessionaire. Advantages and disadvantages are to be found in each. In the first case a large outlay of capital is necessary and there will be heavy overhead expenses, but the merchandising policy will be entirely in the control of the producing corporation. Financial responsibility in the other method rests largely with the concessionaire, but the American producer has no other control over the conduct of the business than that given under the terms of the contract, and no power to change from an unsatisfactory arrangement except by reaching an agreement with his foreign agent.

Each of the two American companies now actively represented in France is an exponent of the different methods mentioned, and apparently both are functioning successfully. For the purposes of each, France is divided into about 10 principal agency districts, the agents and subconcessionaires occupying relatively the same positions with respect to their principals. They purchase merchandise at wholesale rates for their own accounts and arrange for service and repair facilities in their respective districts. They are also authorized under certain circumstances to subdivide their districts among subagents who are responsible to them.

Advertising methods correspond closely to those currently followed in the United States, such as display of models in prominent places, newspaper and magazine advertising, circularization of prospective purchasers, and calls upon persons and firms showing interest. The Electro-Lux uses the house-to-house canvassing method, which has been rather successful.

Use of Deferred Payment Plan Increasing

Sales made to agents are for the account of the latter, at wholesale, for cash or in accordance with the terms of the agency contract.

Retail sales to consumers are for cash, or on the time-payment plan. In the latter case, at least one-fourth of the cost is paid down, and the remainder is payable in 6, 12, or 18 months. Because of the difference between the application of the French laws and those of the United States in the matter of ownership of an article purchased on a time-payment plan, it is customary to require the purchaser to give notes payable at stated periods for the balances due.

The French are rather conservative on the question of time payments, and in most cases the purchaser will elect to pay outright. The time-payment plan is, however, making headway in France.

Norge Holds Open House at Seattle

"Open House" and dispensing of ice cream gratis marked the formal opening of the recently enlarged display and sales rooms of the Norge Electric Refrigeration Co., of Washington, at 520 Virginia St., Seattle.

An entire week, during which many June brides visited the display, was devoted to the celebration of the progress of this corporation which has been extending its sales throughout the state of Washington.

Southern Colorado Power Sells 323 Units in Five Months

The Southern Colorado Power Co., Pueblo, Colo., reports that 323 electric refrigerators were sold this year up to May 30. Pueblo leads the sales with a total of 157, Rocky Ford and La Junta are tied with 40 sales apiece. The increase over last month for all divisions is 39 refrigerators.

Evansville Distributor Opens Branch Office in Vincennes

A. F. Wood Co., 321 Main Street, Evansville, Ind., Frigidaire distributor in southern Indiana and Illinois, and western Kentucky, has opened a direct branch in Vincennes, Ind., under the management of Raymond Clausen.

McCORD BUILT Condensers

Type "D" Seamless Tube
McCORD CONDENSER
with Individual Square Fins
A compact, efficient unit employing a principle of radiation that has found favor among many manufacturers.
Type "B" Spiral Fin
Continuous coil
McCORD CONDENSER
Another popular condenser made up of seamless copper tubing with continuous corrugated spiral fin giving great radiative capacity.
Type "C" Spiral Fin Coil
McCORD CONDENSER
with Seamless Headers
McCord condensers are made in many sizes and shapes to meet the requirements of a wide variety of installations.

McCORD RADIATOR & MFG. CO.
DETROIT MICH.

The Filtrine Filter assures pure, clear water from your Kelvinator Water Cooler
WRITE FOR DETAILS
FILTRINE MANUFACTURING COMPANY
49 LEXINGTON AVE. Brooklyn, N.Y.
Manufacturers of FILTERS & COOLERS of all sizes.

SULPHUR DIOXIDE

ANHYDROUS SULPHUR DIOXIDE

Universally used in the production and servicing of refrigerating machines.
Prepared for direct charging, with absolute protection afforded by complete laboratory analysis of each cylinder, large or small.
Exceptional dryness maintained as an additional safety factor.
Ten sizes of cylinders from 2 lb. to 150 lb. capacity.

SO_2

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Canadian Distributor
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LASSEN — TEMPERATURE — PRESSURE — CONTROLS
POSITIVE RANGE AND DIFFERENTIAL ADJUSTMENT
NON-DETERIORATING MERCURY TUBE SWITCH—MEET ALL REQUIREMENTS
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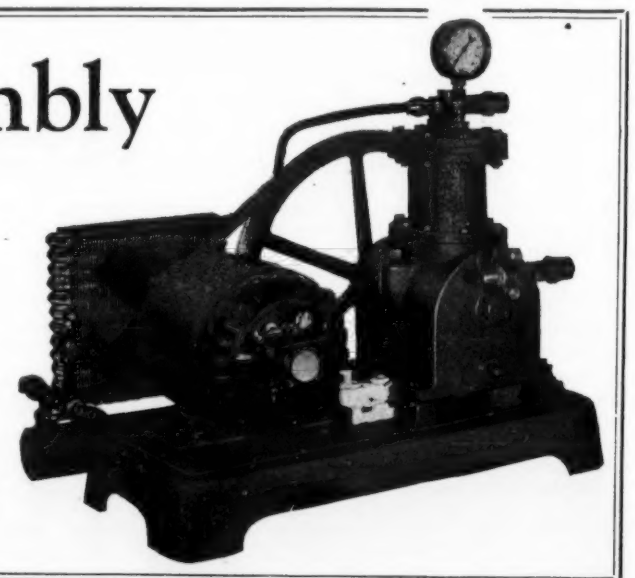
High Side Assembly

We offer the Kulair High Side as the successful result of countless experiments and research work by our engineers in their efforts to perfect a truly balanced combination of compressor, motor, condenser, liquid receiver, fuse block, necessary valves, etc., all mounted on a mechanically designed base that can be installed readily in all of the standard cabinets as well as for remote installations.

Write for Illustrated Folder.

Franklin Air Compressor Corporation
Norristown, Pa.



Application of Insulation to Domestic Refrigerators

Suggests A.S.R.E. Submit Minimum Insulation Standards to Cabinet Manufacturers for Their Approval

Extracts from a paper by J. H. Bracken, Manager, Refrigeration Division, the Celotex Co., Chicago, read at the Detroit meeting of the American Society Refrigerating Engineers, June 4-7, 1928.

WHEN one looks at the household refrigerator it is seen to be divided, unlike Gaul, into only two parts, first the refrigerating device, ice or machine, to produce a cold temperature, and second, the container or box in which the low temperature is confined. It is to this second aspect that this paper is addressed.

The primary efficiency of the container, the resistance it provides against the external universe of heat, will depend upon the insulation and its proper installation.

The builder of the domestic refrigerator, so far as the efficiency of this insulated barrier is concerned, is charged not only with selecting a capable insulator, but with installing it properly so that its original value will remain constant through a long period of time, and also with designing and applying doors which will remain tight against air leakage for correspondingly long periods.

There is no mystery about insulation in general. It has a single highly specialized purpose when installed in a refrigerator, in that it furnishes resistance to the too rapid conduction of external heat into the closed space. This is the only purpose of insulation and the only function which it can perform.

Compression Increases Conductivity

It seems to be well settled that every insulating material derives its ability to slow down the conduction of heat because of its structure, rather than its substance. Every insulating material used in refrigeration can be compressed and its conductivity increased to a remarkable degree. This would seem to mean that its value depends upon the presence of voids, sometimes called air cells, throughout the mass of the insulation. It follows that if water is introduced into this structure, these voids will be filled and the insulation will lose the greater part of its value, since the conductivity of water is much greater than that of any insulating material.

The domestic refrigerator in a kitchen on a warm summer day is a water condenser. The external shell is invariably at a temperature lower than the surrounding air, and if this air, as is often the case, is filled with water vapor, condensation takes place directly upon the refrigerator.

Waterproofing Decreases Conductivity.

This external shell, therefore, must be proof against moisture absorption, and if there are any joints or crevices in this external shell this vapor proof barrier must be moved within to be applied directly upon the surface of the insulation. I quote from letter circular 227 of the Department of Commerce Bureau of Standards of the United States Government, dated April 19, 1927.

"To the best of our knowledge no commercial insulation is in any sense waterproof or moisture proof. All the materials in question are permeable to water vapor and if the insulation is colder than the outside air and is not protected on the out side (surface) most of the water vapor which diffuses into the insulation will condense and accumulate, eventually producing a more or less saturated state and lowering the insulating value many times.

"The only remedy for this state of affairs is adequate protection on the outside (surface) by means of air tight coatings. In no case can the insulating materials themselves be relied upon to prevent water accumulation."

Waterproofing deals with the treatment of a material so that liquid water will not penetrate it readily. Water exists in the atmosphere in the form of vapor or gas, and in this form is able to pass in and out through any material, unless the surface of that material is composed of or protected by a substance whose pores which are too small to permit molecules of water vapor to enter.

As a matter of factory convenience it is better to apply the waterproof protection to the insulation itself than to endeavor to make the entire external surface of the box air tight.

There are, as a matter of ordinary practice, two methods by which the insulation may be moisture proofed by external treatment. This requirement may be met by using a waterproofed coating (paint or asphalt) or by wrapping the insulation in a waterproof membrane. The manufacturer of refrigerator cabinets can select a number of waterproofing materials and he can determine, or have determined for him, the measure of waterproofing efficiency which he achieves.

Method of Testing.

The method of making this test consists of enclosing a refrigerating machine by a frame in which pieces of insulation can be snugly fitted. This machine is installed in a humidity chamber in which the humidity is maintained at a pre-determined point, and in which a high temperature is produced. The insulation samples are treated on the outside, facing the humid room with the particular waterproofing material to be tested and are carefully weighed.

After periods of hours or days, the insulation sample is taken from the frame, the surface carefully wiped to remove any precipitated liquid water, and the sample again weighed. By the change in weight an accurate value for the amount of water vapor passed through the film and precipitated within the insulation is obtained.

There is no mystery about insulation in general, neither is there any mystery about the capacity or efficiency of a number of well known insulating materials. Several of these materials are produced by reputable manufacturers and their efficiencies are matters of common engineering knowledge. The engineer or the manufacturer can demand full data from the insulation maker and he can also consult the publications of the Bureau of Standards, of the American Society of Heating and Ventilating Engineers and the splendid treatise on Insulation published by this Society.

The manufacturer of refrigerator cabinets, therefore, has a number of insulations available for his use. He can protect them with moisture proof coatings or wrappings. He can install them in his cabinet so that all corners will be adequately insulated, that is to say, he can very easily design the application of his insulation so that the insulation panels of the back of the box, for example, will tightly press against the insulation panels of the sides.

Breaks in Insulation to be Avoided.

In a cold storage, for example, the engineer demands that the floor insulation be directly impinged on the wall insulation and that there be no foreign building material interposed between the two. Some such general requirement as to all corners and edges should be the aim of the refrigerator builder. The designing of a small box is of course a matter of manufacturing ingenuity which cannot be described fully in a written paper. It may be pointed out, however, that the cutting of the continuity of the insulation envelope by structural members of steel and even of wood should be avoided by good designing and it is perhaps more important in a small box that the insulation form a continuous barrier than a thick but broken one.

It is when the box builder, however, endeavors to decide what thickness of insulation to use that he sets sail upon an uncharted sea and it is here I think that he should be helped by this Society.

It has been proposed that the insulation efficiency of a refrigerator be stated in an indirect manner, that is by recording the interior temperature which it is to be expected to hold, but I believe that it will be better to say directly that the total heat transmission for 1° temperature difference is so many heat units per hour, or per twenty-four hours, or in the case of ice refrigerators the insulation efficiency may be stated as so much total ice meltage per degree difference in temperature.

There is opportunity for much debate no matter what method is followed but if we adopt the British Thermal Unit or the ice meltage method we can make a direct simple and provable statement because a section of a refrigerator wall, for example, if it is solidly constructed with no air spaces, as I assume will be the case in most refrigerators in the future, can be tested in a laboratory with very certain results.

A Comparative Test.

I have examined a number of the catalogs of refrigerator makers and have selected two boxes, one a mechanical refrigerator and one an ice refrigerator, each purporting to contain 5 cubic feet net food space to illustrate this argument.

The dimensions of the mechanical refrigerator were 36 inches high, 24 inches wide and 24 inches deep, making the entire exposed surface 32 square feet. The dimensions of the ice refrigerator were 50 inches high, 32 inches wide and 20 inches deep, making the entire exposed surface 45 square feet.

I assume the heat transmission of 4.5 B. t. u.'s per square foot for twenty-four hours for each refrigerators.

In the case of the mechanical refrigerator 4.5 B. t. u.'s times 32 square feet equals a total heat transmission of 144 B. t. u.'s or one pound ice meltage for twenty-four hours for each degree temperature difference. In the case of the ice refrigerator 4.5 B. t. u.'s times 45 square feet equals 202 B. t. u.'s equivalent to an ice meltage of 1.4 pounds per twenty-four hours per each degree temperature difference.

Suggests a Minimum Standard

Many persons will immediately say that a higher standard in this is advisable but I am certain that a great number of refrigerators do not perform as well as the two described. Would it not be possible for the Society to state the minimum requirements of total heat transmission or square foot heat transmission per twenty-four hours per degree temperature difference in B. t. u.'s and ask the various refrigerator manufacturers to secure the approval of this Society with respect to this standard. This sort of thing is now being done with regard to household appliances by two or three of the national magazines and while, of course, our approval will not have the force of law, yet it will tend to build up a public opinion which will force the use of these standards by manufacturers who may never have heard of our Society.

One other suggestion about insulation for refrigerators I should like to make before concluding. It has been found in mechanical refrigerators that much more power is needed to produce the first low temperature in a new box than to maintain the temperature once it is produced. This experience, of course, is common in the refrigerating field and it indicates directly to the box manufacturer the value of an insulation thicker than the minimum. Thickness of insulation is a factor in maintaining constant temperatures under varying operating conditions.

This is a
DRY-ZERO PLIABLE SLAB
Cut to Size—Self Sealing
Ready to Install

Dry-Zero is an amazing light, efficient and permanent insulation. In pliable slab form it comes in thickness from 1½" to 4" thick and is especially designed for Refrigerators, Ice Cream Cabinets, Display Counters, Boxes and similar units. Because of its exceptional lightness, it is unrivalled for refrigerator cabinets and especially for doors and hinged parts.
Dry-Zero is easily installed and hermetically sealed in a single operation by pressure alone—no heat is required. There is no waste or loss of time and labor. Dry-Zero will not swell, crack or settle. Mail coupon now for details.

DRY-ZERO CORPORATION 130 N. WELLS ST. CHICAGO

Please send details and literature on Dry-Zero. (1)
Name_____ Address_____
City_____ State_____

No. 715 Porcelain Exterior with white or ivory walls and gray, green or blue front or in special "to order" color combinations.

Why compromise?

No success with electric refrigeration has been more convincing than the record which good units in Alaska cabinets have rolled up. This month a new feature puts Alaska even farther in the forefront of the cabinet industry. For full facts about it and description of the full Alaska line simply mail a note to

The Alaska Refrigerator Company
Muskegon, Michigan

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Philadelphia, Pa. 304 Perry Bldg.
New York, N. Y. 206 Lexington Ave.
Chicago, Ill. 1508 American Furniture Mart Bldg.
Detroit, Mich. 432 Curtiss Bldg.
Minneapolis, Minn. 603 Lumber Exchange
St. Louis, Mo. 2029 Belleview Ave.
Dallas, Texas Santa Fe Furniture Mart

Cork-Board Insulated
ALASKA
ELECTRIC CABINETS

SAFETY CODE FOR CITY OF CLEVELAND

(*Concluded from Page 7*)

4. Systems on demonstration in exhibition halls shall be limited to the unit type containing less than twenty (20) pounds of refrigerant (class C).

5. No refrigerating system in which an irritant or a flammable refrigerant is used shall be installed or maintained in or under stairways or in hallways of any building.

6. No Class A or Class B refrigerating system in which an irritant or flammable refrigerant is used shall be installed or maintained in any building of the first grade (see definition No. 2) unless the room or rooms containing the refrigerating system are cut off from the building or parts of the building by unpierced fireproof construction.

7. An intermittent absorption type of refrigerating machine shall not be permitted in a class "A" system. Such a type of machine shall be permitted in a class "B" system only when a heating medium of low pressure (less than 15 lbs.) steam is used in its operation.

8. A class "B" system using a flammable refrigerant (see Table I) shall not be installed, operated or maintained except in a fireproof building of not more than one story in height, and shall be located on the ground floor, which shall be of unpierced fireproof construction. The refrigerating machinery room shall be cut off from the rest of the building by unpierced fireproof walls of not less than eight (8") inches of brick or six (6") inches of reinforced concrete. Direct exit therefrom leading to the open air and not to any other part of the building shall be maintained and shall be provided with vapor-tight, self-closing fireproof door or doors.

Sec. 2748-A—Refrigerating Machinery Room and Ventilation.

1. All refrigerating machinery rooms in which an irritant refrigerant is used shall be maintained vapor-tight except that all doors in refrigerating machinery rooms, in which an irritant refrigerant is used and which open to other parts of the building shall be self-closing and so close fitting as to prevent the passage of vapor and shall be kept closed at all times except during entrance or exit. All other openings that may permit the passage of vapor to other parts of the buildings shall be vapor-tight and kept closed. No openings from elevator shafts shall be permitted in the refrigerating machinery room. This provision, however, shall not apply to dumbwaiter shafts the door openings of which are protected with self-closing fire door.

2. In class "a2" and class "b2" systems in which an irritant refrigerant is used, the doors of the refrigerating machinery rooms shall open outwardly.

3. Ventilation. Each class "a" and "b" refrigerating machinery room shall be independently provided with means for adequate ventilation to the outer air. The ventilation shall consist of a window or windows opening directly to the open air, or mechanical means capable of exhausting foul air from the room (See Table III, Par. 6, this section).

4. When a window or windows are used, if placed in opposite walls so as to provide a thorough air circulation to the outer air, a total area of inlet and outlet respectively, of not less than specified in Column D of Table III in paragraph 6 shall be provided. When a window or windows are placed in one wall a total area shall be provided not less than that specified in column E of the above mentioned table.

5. When mechanical means are used they shall consist of a power-driven exhaust fan of the enclosed cased blower type or equal which shall be capable of removing from the refrigerating machinery room the amount of air specified in column B of Table III in paragraph 6. The inlet to the fan shall be located near the refrigerating equipment. The outlet from the fan shall terminate not less than six (6) feet above the grade and in no case under a stairway or fire escape or window of any building. Where air ducts are used on either the inlet or discharge side of the fan they shall each have an area not less than that specified in column 6 of Table III. Sharp bends in the run of the ducts shall be avoided. The control for such mechanical means of ventilation shall be easily accessible and located outside of the refrigerating machinery room.

7. Where a non-irritant or non-flammable refrigerant is employed, the requirements as given in Table III may be reduced by one-half. When air or water is employed as the refrigerant no ventilation shall be required.

frigerating machinery room in which a flammable refrigerant is used.

2. Electrical equipment. All class "A" and "B" systems shall have an emergency switch controlling all of the electrically operated refrigerating machinery. The remote control of such a switch shall be located outside of the refrigerating machinery room where it can be quickly reached and operated in cases of necessity.

3. Where the operating mechanism in any system is dependent upon electrical control, such control in a pressure limiting device shall be on a closed circuit.

Sec. 2748-C—Piping, Valves and Gauges

1. All piping, liquid receivers or vessels containing refrigerant, shall be supported on or by strong and durable materials erected in workmanlike manner.

2. Every system which may be charged after installation shall have the charging connection located on its low pressure side.

3. Liquid level gauge glasses, on any or all types of systems, except those of the bull's eye type, shall have automatic closing shut-off valves and such glasses shall be adequately protected against injury by alotted metal casings.

Sec. 2748-D—Application of Safety Devices.

1. Every class A and class B refrigerating system, the pressure imposing element of which is capable of producing a pressure in excess of the test pressure, shall be protected by a pressure limiting device.

2. All class A or B systems shall be protected by a pressure relief valve connected into the high pressure side between the main stop-valve and the pressure imposing element to relieve excessive pressure into the low pressure side of the system or to the atmosphere.

3. A rupture member may be substituted for the relief valve in CO_2 systems, or systems operating below atmospheric pressure.

4. Where any part of a system is protected by a pressure relief device or pressure limiting device no valve shall be placed between such part of the system and a relief or limiting device except that it shall be allowable to use a special valve between such parts provided such valve may be locked or sealed in the open position and that the design of such valve is acceptable to the Commissioner of Smoke Inspection.

All such valves shall be sealed or locked, opened by a representative of the Smoke Department and it shall be unlawful for any person, persons, firm or corporation to break such seal or remove such lock except in case of emergency, without first notifying the Smoke Department and in case of emergency, a report will be made as soon as possible thereafter to the Smoke Commissioner.

Any part of a system which is located between two stop-valves and is capable of 20 pounds or more of refrigerant shall be protected by a pressure relief device or a pressure limiting device.

5. A class "B" system in which no stop valves are used and in which the pressure will equalize throughout the system when the pressure imposing element is not in operation may be protected by only one pressure relief device located on the high pressure side, the same as a class A system (see Section 2748-E, Paragraph 5 and 6a).

6. Apparatus such as liquid receivers, condensers, evaporators, liquid separators and absorbers of class "A" and class "B" systems, which can be shut off by a valve shall each be equipped with a pressure relief valve, discharging as provided in Sec. 2748-E, Paragraph 5.

7. Class "C" systems so constructed that, when subjected to an abnormal outside temperature such as that generated in a fire, they may burst due to the expansion of the refrigerant, shall be protected by a pressure relief device.

Sec. 2748-E—Safety Devices.

1. Pressure relief valves, pressure limiting devices and rupture members shall be set to prevent the pressure exceeding the pressure indicated in column 5, Table II. The pressure at which the device is set to function shall be indicated thereon.

2. Fusible plugs shall relieve the pressure at a temperature not exceeding 280° Fahrenheit.

3. The size of pressure relief valves for class B systems shall be ½ inch valves.

4. Where rupture members are permitted and used, the equivalent area of the relief valve special must be provided.

5. In class "A" systems the discharge from relief valves must be connected to the outside atmosphere or into that part of the low pressure side, protected by a pressure relief valve discharging to the atmosphere. If it is discharged to the outside atmosphere it must be piped above the roof.

6. In a class "B" system the discharge from relief valves shall be piped to the atmosphere as specified for class "A" systems or into that part of the low pressure side protected by a relief valve discharging to the atmosphere, or into an absorbent.

TABLE III.

Minimum Ventilator Requirements.

Pounds of Refrigerant in System A	Mechanical Cu. Ft. Per Minute Dis. B	Mechanical Sq. Ft. Duct Area C	Window Area in Sq. Ft. for Each Opposite Side D	Window Area in Sq. Ft.-for One Side Only E
Up to 20	150	¼	1	6
50	250	⅓	1½	12
100	400	½	2	16
150	550	⅔	2½	19
200	680	⅔	3	25
250	800	1	3½	29
300	900	1	4	32
400	1100	1¼	4½	38
500	1275	1¼	5	42
600	1450	1½	6	45
700	1630	1½	6½	48
800	1700	2	7	51
900	1950	2	7½	55
1000	2050	2	8	59
1250	2350	2¼	9	68
1500	2800	2½	11	78
1750	3150	3	12½	87
2000	3500	3½	14	95
2500	4150	4	16	113
3000	4500	4½	18	130
4000	6000	6	24	167
5000	7500	7½	30	204
6000	9000	9	36	241
7000	10500	10½	42	278
8000	12000	12	48	315
9000	13000	13	52	342
10000	14000	14	56	260
12000	17000	17	68	425
14000	19000	19	75	470
16000	22000	22	86	540
18000	24000	24	92	580
20000	26500	26	100	630
25000	33000	33	121	760
30000	39000	39	142	870
25000	44000	44	153	940
40000	51000	51	175	1060
45000	56000	56	196	1120

Note—Door openings, leading directly to the open air shall be considered equivalent to windows for the requirements specified in column "D" and "E," of this table.

8. In an air conditioning ventilating equipment, no part of a refrigeration system using an irritant or flammable refrigerant shall be installed in any duct or intake that might conduct the fumes of the refrigerant to the space to be ventilated.

Sec. 2748-B—Open Flames and Electrical Equipment.

1. Open flames. No fire, flame or arc light will be permitted in a class "A" or "B" re-

6a. In any absorbent container for ammonia there shall be at least one gallon of fresh water for every pound of ammonia contained in the system. The water used shall be prevented from freezing without the use of sale or chemicals. The tanks shall be substantially constructed of no less than one-eighth (⅛") or No. 11 U. S. Gauge Iron. No horizonal dimensions of the tank shall be greater than one-half (½) the height. The tank shall have a hinged cover, or if of the enclosed type, shall have a vent hole at the top. All pipe connections shall be through the top of the tank only. The discharge pipe from the pressure relief valves shall discharge the ammonia in the center of the tank near the bottom. The tank shall be as securely supported as any other portion of the system. There shall be no opening in the tank below the water level.

6b. For other refrigerants which are either irritant or. flammable, the discharge may be into a suitable body of non-flammable absorbent, provided that this absorbent and method of use shall have been first passed upon by the Commissioner of Division of Smoke Inspection.

6. In a class "B" system the discharge from relief valves shall be piped to the atmosphere as specified for class "A" systems or into that part of the low pressure side protected by a relief valve discharging to the atmosphere, or into an absorbent.

6a. In any absorbent container for ammonia there shall be at least one gallon of fresh water for every pound of ammonia contained in the system. The water used shall be prevented from freezing without the use of salt or chemicals. The tanks shall be substantially constructed of not less than one-eighth (⅛") or No. 11 U. S. Gauge Iron. No horizontal dimensions of the tank shall be greater than one-half (½) the height. The tank shall have a hinged cover, or if of the enclosed type, shall have a vent hole at the top. All pipe connections shall be through the top of the tank only. The discharge pipe from the pressure relief valves shall discharge the ammonia in the center of the tank near the bottom. The tank shall be as securely supported as any other portion of the system. There shall be no opening in the tank below the water level.

6b. For other refrigerants which are either irritant or flammable, the discharge may be into a suitable body of non-flammable absorbent, provided that this absorbent and method of use shall have been first passed upon by the Commissioner of Division of Smoke Inspection.

6c. Carbon dioxide may be discharged into the room if same contains at least 10 cubic feet of capacity per pound of refrigerant used.

Sec. 2749—Operating Precautions.

1. In a class "A" system which operates above atmospheric pressure there shall be provided at least one helmet or mask.

2. Only helmets or masks that have been approved by the United States Bureau of Mines as suitable for the refrigerant employed shall be used, and they shall be kept in operative condition in an easily accessible case or cabinet located immediately outside the refrigerating machinery room.

3. Refrigerant not contained in the refrigerating system shall be stored only in "Flammable" or "Irritant" containers conforming to the regulations prescribed by the Interstate Commerce Commission for the transportation of such refrigerant.

4. Only two containers holding not more than a total of three hundred (300) pounds of flammable or irritant refrigerant each, shall be stored in the refrigerating machinery room of a class "A" system.

5. Only one container holding not more than one hundred and fifty (150) pounds of flammable or irritant refrigerant shall be stored in the refrigerating machinery room in a class "B" system.

6. In a class "C" system no refrigerant other than that used in the system shall be stored in the refrigerating machinery room.

7. If a greater amount of flammable or irritant refrigerant is desired other than that permitted in a refrigerating machinery room it shall be stored in a fireproof building or enclosure used for no other purpose.

8. When the refrigerant is withdrawn from a system it shall be discharged only into a suitable absorbent or into containers conforming to the regulations of the interstate commerce commission for the transportation of such refrigerating machinery room.

9. Containers shall not be connected to the system except during period of charging or withdrawing the refrigerant.

Sec. 2750—Fees.

The following fees will be charged and proper evidence will be issued by the submission of a certificate from the treasurer, upon the payment of such fee.

	Class A System	Class B System	Class C System
Permit (Sec. 2744—Par. 1)	$8.00	$3.00	$2.00
Certificate (Sec. 2745—Par. 1)	8.00	3.00	2.00
Renewal Cert. (Sec. 2746—Par. 1)	8.00	3.00	2.00
License (Sec. 2747—Par. 1)	3.00	1.00	1.00

* The rate shown for class C machines will be enforced if and when any special case may require department supervision.

Sec. 2751.

1. Any person, firm or corporation violating the provisions of this subdivision shall be fined not less than Ten Dollars ($10.00) and not to exceed one hundred dollars ($100.00) and each day's failure to comply with the provisions of this ordinance shall constitute a separate offense.

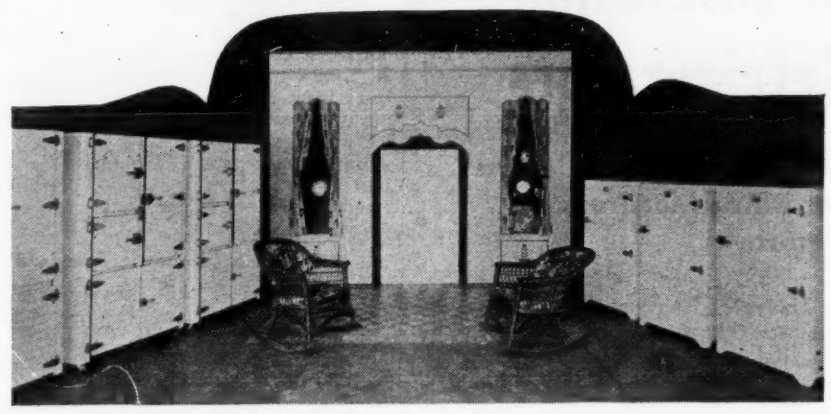
Sec. 2752.

1. Each section and each subdivision of a section is hereby declared to be a separate provision, and if any provision of the subdivision shall be for any reason held invalid, such holding shall not be construed to invalidate any other provision of this subdivision.

Central Illinois Public Service Sales of Appliances Reach High Mark in May

Merchandise sales of the Central Illinois Public Service Co., Springfield, Ill., during the month of May made a strong bid for the one hundred thousand dollar mark and were the largest made in any one month in the history of the company. The sales exceeded the highest previous month by more than $9,000.00.

A Background in Vivid Colors



An attractive background centers the interest of visitors to the show room of the Fort Smith Radio Co., Fort Smith, Ark., on a display of Zerozone electric refrigerators. One model in particular is made to stand out against a background finished in pearl gray with trimmings in blue and the alcove and shelves in deep orange.

Amber-colored flood lights directed on the background at night produce a most pleasing effect. According to W. W. Pitts much favorable comment has resulted.

GLOSS LACQUER VS. CLEAR FINISH FOR THE REFRIGERATOR

There is considerable difference of opinion as to the relative merits of a gloss lacquer enamel finish as against a flat color followed by a clear top coat to produce lustre on cabinets.

The gloss enamel finish has the principal advantage that the lustre and color remain uniform regardless of the amount applied, whereas a clear top coat over flat enamel produces a degree of lustre depending upon the amount sprayed. Large flat surfaces such as refrigerator cabinets are particularly different.

If portions of the flat enamel are passed over more quickly by the spray operator when applying the clear coat, they will show only a semi-gloss of lighter color, whereas portions having a heavy clear coat will show more gloss and at the same time a darker or more yellow shade. This shows up in the form of streaks or blotches. Furthermore the nature of a flat enamel requires a high pigment content which shortens the life and toughness of the protective film.

Even though a durable primer and top coat are used, the life of the protective film is determined by its weakest link, in this instance the flat intermediate coat. Furthermore, clear lacquers are not as durable as pigmented enamels. Also they tend to show more orange peel and a pitted effect. A primer followed by only the gloss enamel insures uniform strength throughout the film and uniform sheen and color.

These points have been borne out in actual practice and tests in artificial humidity chambers and salt spray tests the latter of which give a fairly accurate measure of the true life and durability of finishes.

Jordan Marsh Co., Boston, Holds Food Preservation Exposition

The Jordan Marsh Company, nationally known department store, Boston, Mass., held a food preservation exhibit in the assembly hall of the store June 19 to 23. Frigidaire Corp., of Dayton assisted in the show. The decorations used at the N. E. L. A. convention in Atlantic City recently added to the attractiveness of the exhibit.

J. Reed Fowler Co. Will Sell G. E. Machines in Anderson, S. C.

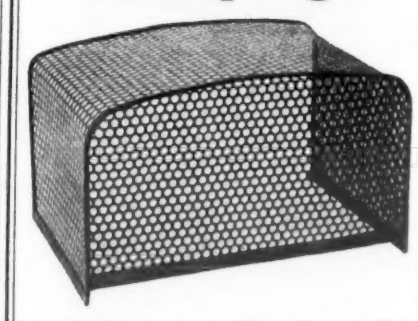
The firm of J. Reed Fowler Co., Anderson, S. C., has been appointed as dealer for General Electric refrigerators in Anderson, S. C.

Write for our new 1928 proposition assuring you
MORE AND BIGGER SALES
with Thesco Display Fixtures
The C. SCHMIDT COMPANY
John and Livingston Streets — THE HOME OF THESCO PRODUCTS — Cincinnati, Ohio

FLINTLOCK CONDENSERS
Efficient—Economical
Compact
Greater Efficiency at Less Cost
WRITE FOR OUR BOOKLET
FLINTLOCK CORPORATION
4461 W. Jefferson Ave.
DETROIT, - - MICH.

LIG-O-NIER *Refrigerators*
Give your Electrical REFRIGERATION Units a Chance to Prove their Quality!
A Complete Line of Commercial Refrigerators...Counters and Market Coolers.
LIGONIER REFRIGERATOR COMPANY
100 CAVIN ST.
LIGONIER—INDIANA.

Refrigeration Stampings



Angle iron supporting bases for freezer units. Electrically arc welded—built to your specifications.
Metal guards to cover units.
We invite your inquiries on any sheet metal requirements.
Motors Metal Mfg. Co.
DETROIT, MICH.

AUTOMATIC ELECTRIC CONTROLS
NON-DETERIORATING MERCURY SWITCHES
Simple — Dependable ABSOLUTE ELKHART — CON-TAC-TOR — *Accurate — Safe* CORPORATION INDIANA

TRADE EXTRA DRY ESOTOO MARK
THE PUREST
SULPHUR DIOXIDE
Analysis Guaranteed
We have an agent, with our product in stock, near you
Wire us where we can serve you
VIRGINIA SMELTING CO., WEST NORFOLK, VA.
F. A. EUSTIS, *Secretary* 131 STATE ST., BOSTON 2 RECTOR ST., NEW YORK

VISITOR AT COPELAND BOOTH SAYS 30 FOOT MODEL IS TOO SMALL

While in the Copeland booth at the N. E. L. A. convention at Atlantic City, A. M. Taylor, advertising manager of the company says he was somewhat taken back when a gentleman who, with his wife was visiting the booth, told him that the Copeland de luxe model with 30 square feet of shelf space was not large enough.

It developed that this gentleman owns a very fine country home some 30 miles from Atlantic City and wanted a refrigerator large enough to keep a side of beef, half of a hog, a lamb, and other incidental meats.

Further conversation brought out the fact that he has on his land a million foot gas well, so that his attention was immediately turned to the Silica Gel process which employs gas in its operation.

Perhaps the most popular feature of the Copeland exhibit was the demonstration of the interchangeable colored tops and grill fronts for the de luxe models with cabinets by the Benjamin Electric Co. of Chicago. This company also displayed sets of porcelain dishes in colors to match the refrigerator finishes and so designed that several of the dishes can be nested, thereby saving shelf space in the refrigerator.

COLDAK CORP. APPEALS IN DANBURY CASE

The Coldak Corporation of New York, The Home Heating and Refrigerating Company of Bridgeport and the Tahquioque Realty and Security Company of Danbury, Conn., have filed notice of an appeal in the superior court of Bridgeport, Conn., against the decision of Judge Allyn L. Brown who awarded damages totaling $19,000 to Mrs. Clara R. Force and Mrs. Margaret Force Fromme of Los Angeles on account of injuries resulting from a defective installation in an apartment house.

Electrolux In San Francisco Model Home

The *San Francisco Chronicle*, in conjunction with the Gas Appliance Society of California and the American Gas Association, recently opened a model home in the exclusive Balboa Terrace section of San Francisco.

This home is completely equipped with all modern gas appliances. One of the most popular attractions for the thousands of people attending it, was the Electrolux gas operated refrigerator, manufactured by Servel.

Green Bay and Waukesha, Wis. Dealers Add to Display Facilities

George Knoeller of the Knoeller Electric Co., Green Bay, Wis. Frigidaire dealer, reports additions to his place of business to make a better display room for electric refrigerators.

Donald Stophlet, Waukesha, Wis., Frigidaire dealer, reports a number of changes in his store, providing a better electric refrigeration display.

Mineral Wool

assures

Perfect Insulation for

Cold Storage Construction

The low thermal conductivity necessary for maximum insulating efficiency is ideally supplied by this indestructible, vermin-proof and entirely mineral material.

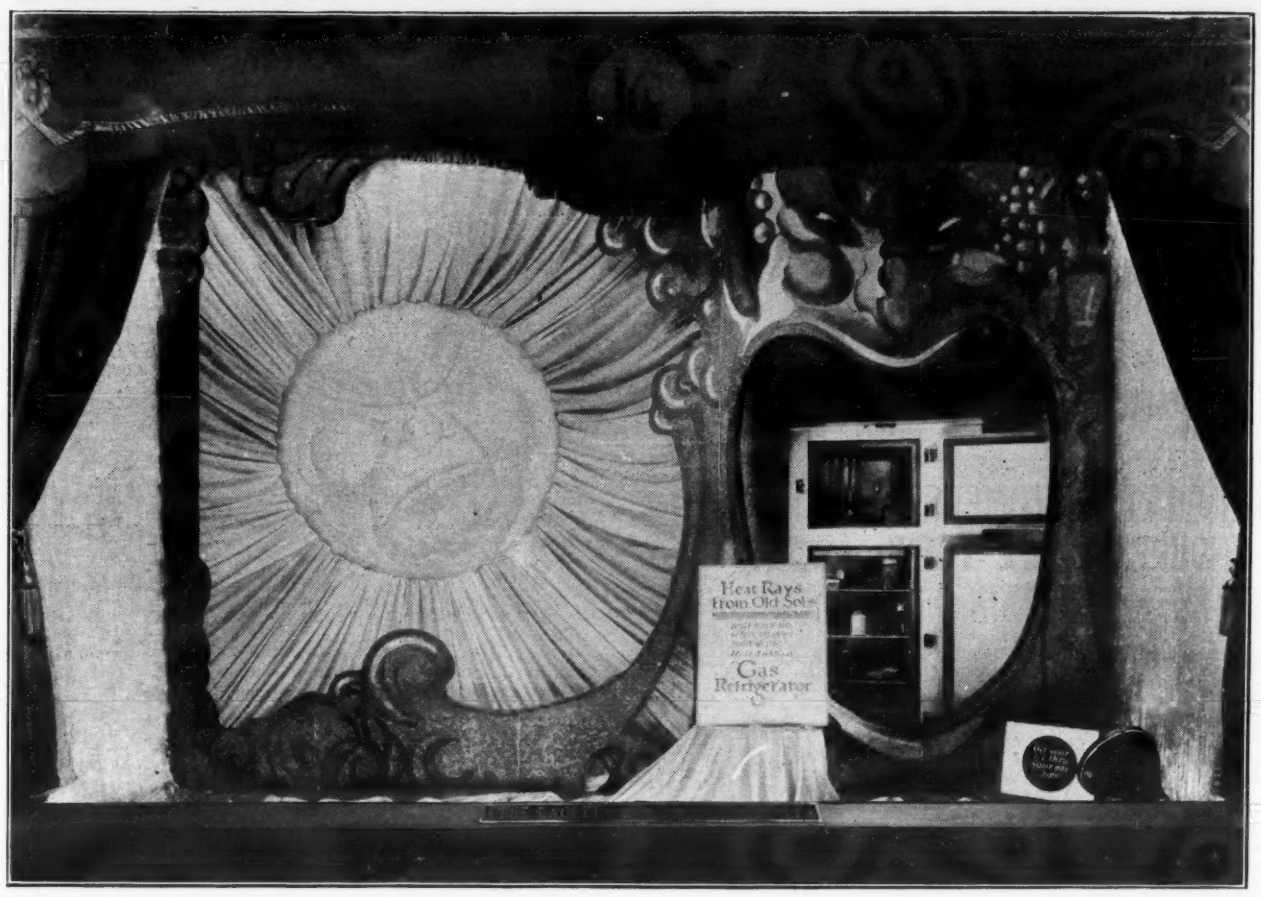
Mineral Wool is rated 6.3 B. T. U. by the U. S. Bureau of Standards and the low cost makes its use a real economy.

Send for sample and descriptive folder.

U.S. MINERAL WOOL CO.

280 Madison Avenue, New York
Western Connection: Insulating Products Company, 1553 West Madison St., Chicago

Should the Display Background Be Hot or Cold?



"Four out of five" window display men (or should we say 99 out of 100.) instinctively work out a "cold" background for the refrigerator. Polar bears, ice bergs, snow and other symbols of frigidity, are standard props for the decorator. Occasionally someone takes the opposite viewpoint and makes the background "hot" as a contrast to the cold looking cabinet.

ELECTRIC REFRIGERATION NEWS has suggested that the contrast method has greater attention value and offers more attractive colors, i. e., red, orange, etc., instead of blue, green, etc. What do you think? The above display of the Electrolux unit is by the Laclede Gas Co. of St. Louis. Perhaps the gas people are more accustomed to thinking of heat and therefore are inclined to use "hot" displays.

Florist Sings Praises of Electric Refrigeration

Meridian, Miss., Man Claims Unit Will Pay for Itself in Two Years—Flowers Last Twice As Long

By Archie Richardson

THE eight hundred dollars spent for electric refrigeration when he moved into his handsome new display and sales room downtown last winter is regarded by J. S. Sinclair, proprietor of the Sinclair Floral Co., Meridian, Miss., as his best investment.

If the refrigeration equipment were to be junked at the end of the first two years—instead of lasting a lifetime as it probably will—Mr. Sinclair believes he would be the gainer, for the way things are going now the entire investment will be paid for out of the savings within twenty-four months; leaving the satisfaction found in the use of electric refrigeration as a handsome profit.

But as the equipment will last for many years, with the entire cost paid out of the first two years savings, it will continue to turn in several hundred dollars in "velvet" every year.

Here are some of the savings credit by Mr. Sinclair to the electric unit. A monthly saving of $20 in refrigeration cost—the difference between the $35 spent for ice for cooling the small box formerly used and the $15 worth of electric current required for the large box now used.

Flowers last twice as long with electric refrigeration as they did with ice refrigeration, reducing loss of stock and removing the necessity of bringing in fresh flowers as often as was formerly required.

Twice as much storage space at a more constant temperature than was formerly available. Less space taken up by the cooling element. The 2 H. P. compressor sits under a table where it is always out of the way. Elimination of worry about keeping an even temperature in the cooler over a number of days.

"The ideal temperature for keeping flowers is 50 to 52 degrees, according to my experience," said Mr. Sinclair. "There is no longer any worry about keeping a constant and ideal temperature. That is automatically controlled.

"But when I used old methods, a hot day meant a high, sloppy temperature by afternoon and the loss of sometimes many much-needed flowers. The temperature was right when the ice was put in in the morning, but the warmer the day and the more the need of refrigeration, the faster the ice melted.

"I think I can safely say that electric refrigeration keeps flowers fresh twice as long as ice. And, kept at the ideal temperature, they look their best all the time and are much more attractive to the buyers; all of which means more sales and more net profit."

Electrically-refrigerated cases of the Sinclair Floral Co., Meridian, Miss.

Piper & Taft Will Sell Servels in Seattle

Piper & Taft Inc. 1107 Second Avenue, Seattle, Wash. have recently added Servel electric refrigerators to their sporting goods and radio lines.

Milwaukee Salesman Selected In Westinghouse Prize Contest.

Homer G. Hall, of the Julius Andrae & Sons Co., Milwaukee, electric refrigerator jobbers, has been chosen as one of the sixteen electrical supply salesmen in the country on the basis of broad constructive salesmanship for 1927 by the Westinghouse Commercial Investment Co. of New York. Contestants from all parts of the country were entered in the award which carries a cash prize and tour of the principal plants of the Westinghouse Electric and Mfg. Co.

D. A. Brown to Entertain the Detroit Adcraft Club

On Saturday, July 14, D. A. Brown, president of General Necessities Corp., Detroit, will be host to the Adcraft Club of Detroit at his Mountain View Lake farm near Waterford, Mich. This affair which started with an invitation to the Club several years ago has come to be looked upon by Detroit advertising men as an annual outing.

C. E. Wilson in Charge of Frigidaire Retail Store in El Paso

C. E. Wilson, for the past three years with the Cooper-Gillett Co., Frigidaire distributors for West Texas, New Mexico and Arizona, with headquarters in El Paso, Texas, has been placed in charge of the retail sales and service office which has been opened in that city. He will have entire charge of sales and service in El Paso and Dona Anna counties. Mr. Wilson stated that over 400 Frigidaire installations have been made in El Paso homes and business houses since the Cooper-Gillett Co. have been distributors.

St. Joseph, Mo. Central Station Sold 16 Units in May

Eleven domestic and five commercial refrigerators were sold by the new business department of the St. Joseph Railway, Light, Heat & Power Co., St. Joseph, Mo., during the month of May. The sales of appliances for the month totaled $20,430.12, with H. W. Lemaster as high salesman with a total of $3,343.14.

An elaborate electric refrigerator display has been arranged in the company's salesroom.

Evansville Distributor Installs Frigidaire on U. S. S. Kankakee

Modern home comforts on shipboard? Decidedly so declares A. F. Wood, president of the A. F. Wood Co., 321 Main Street, Evansville, Ind., Frigidaire distributor, who has received a contract for the installation of a Frigidaire system on the U. S. S. Kankakee, a boat that has played a leading role in rescue and relief work in floods along the Ohio and Mississippi valleys. A Model O Frigidaire has been selected. The equipment will include a drinking fountain.

Milwaukee Distributor Stages Electric Refrigeration School

During the first week in June the Electric Co., Milwaukee, Kelvinator distributors, staged an electric refrigeration school. The course was known as the home refrigeration course and was attended by about eighty women.

A. B. Jefferis Joins Frigidaire Distributor In St. Louis

A. B. Jefferis, formerly with Beck & Corbitt, and Copeland-St. Louis Co., Copeland distributors for the St. Louis territory, has joined the sales force of the Del-Home Light Co., St. Louis distributors for Frigidaire.

Correction

In the Classified Directory on page 22 of the June 6 issue the address of Electro-Kold Corp., is given as Spokane, Wash. This was incorrect and should have been Seattle Wash.

A Bit of Sales Psychology

Theodore G. Hood, General Electric refrigerator salesman with the O. K. Light and Power Co., Kiowa, Kansas, advances the following bit of practical psychology:

"When making a definite appointment with a prospect it is a good idea to pull out your watch and be looking at it when you state the time of the next call. It impresses the time upon the mind of your prospect."

DRINKING WATER FAUCETS
for
Refrigerators - - Water Coolers
Cordley & Hayes
1 Leonard St. New York City

The leading refrigerator manufacturers are buying
BOSLEY'S
"Ice Saver" Gasket
for it is the best uniform quality insulation
Write us
The D. W. Bosley Company
1901 Carroll Ave. Chicago, Ill.

An Outstanding Sales Feature for
REFRIGERATORS
WIRFS PATENTED
"AIRTITE" CUSHION GASKET
E. J. WIRFS ORGANIZATION, Inc.
135 S. 17th St., St. Louis, Mo.

WAGNER MOTORS FOR ELECTRIC REFRIGERATION
Wagner Small Motors meet the refrigeration standard—mechanically quiet—built to close tolerances. Available in ratings from ⅛-hp. to 1½-hp.
TEN PROMINENT USERS
Frigidaire Corp. — U. S. Air Compressor Co.
Kelvinator Corp. — Duro Pump Co.
Universal Cooler — Preferred Oil Burners, Inc.
Iron Mountain Co. — National Refrigerarion Corp.
Merchant & Evans — American Blower Co.
Wagner Quality
WAGNER ELECTRIC CORPORATION
6400 Plymouth Avenue St. Louis U. S. A.

NOVOID CORKBOARD
For all commercial jobs you will find NOVOID Corkboard Insulation the most satisfactory insulating material for the purpose. It is convenient to use. It comes in 12"x36" and 24"x36" sheets, in 1", 1½", 2", 3", and 4" thicknesses. Shipped in strong fibre containers, each containing 72 board feet. Samples on request.
Write for Catalog E-2
CORK IMPORT CORP.
345-349 W. 40th St., New York
Branches in Principal Cities

THE PRESIDENT HOTEL
ON THE BOARDWALK
ATLANTIC CITY — N.J.
SPLENDID LOCATION
Each room has Servidor, Serving Pantry, Bath with sea water. Possesses own Swimming Pool and Turkish Baths. Concerts - Dancing - Golf - Horseback - Roller Chairs.
Come Now for Relaxation and Recreation.
F. L. Andrews
Manager

KEROTEST
FORGED BRASS VALVES *for* Mechanical Refrigeration
Quality Shut-off and Cylinder valves in any standard designs or to your specifications.
KEROTEST MANUFACTURING CO.
2525 LIBERTY AVENUE
PITTSBURGH, PENNA.